

# *Polund*

**PRO-CLAMP Systems**



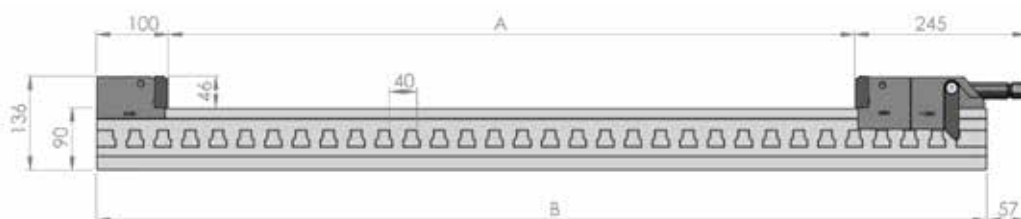
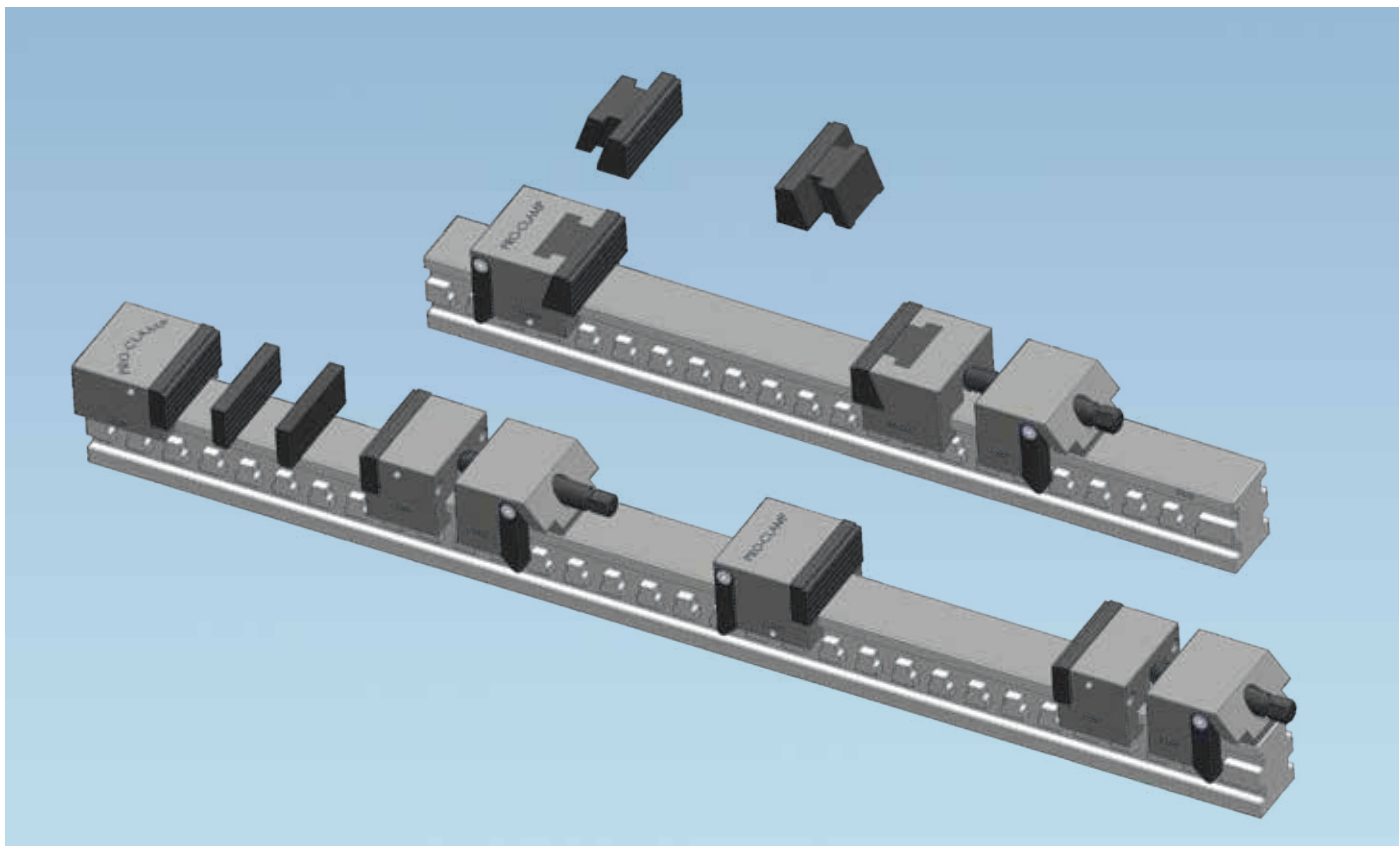
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**Polund**

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# PRO-CLAMP FLEXIBLE



Data sheet PRO-CLAMP Flexible

Item no.	Jaw width (mm)	Jaw height (mm)	A: Opening (mm)	B: Length (mm)	Clamping force (t/Nm)	Weight (Kg)
F400	111	46	400	688	7/200	39
F600	111	46	600	888	7/200	48
F800	111	46	800	1088	7/200	57
F1000	111	46	1000	1288	7/200	66
FXXX	111	46	customised		7/200	
Spindle travel 45 mm						

## Kendetegn ved PRO-CLAMP Flexible

- Opspænding af et eller flere emner
- Spændvidde standard op til 1000 mm
- Spændekraft 7 t v/200 Nm
- Hurtig udskiftning af løsdele
- Ergonomisk ved brug af fast/flytbar kæbe
- Kan tilpasses særlige kundeønsker

## Features of PRO-CLAMP Flexible

- Clamping of one or more workpieces
- Span standard up to 1000 mm
- Clamping force 7 ton at 200 Nm
- Fast changing of loose parts
- Ergonomic using fixed/movable part
- Can be customized to specific requirements

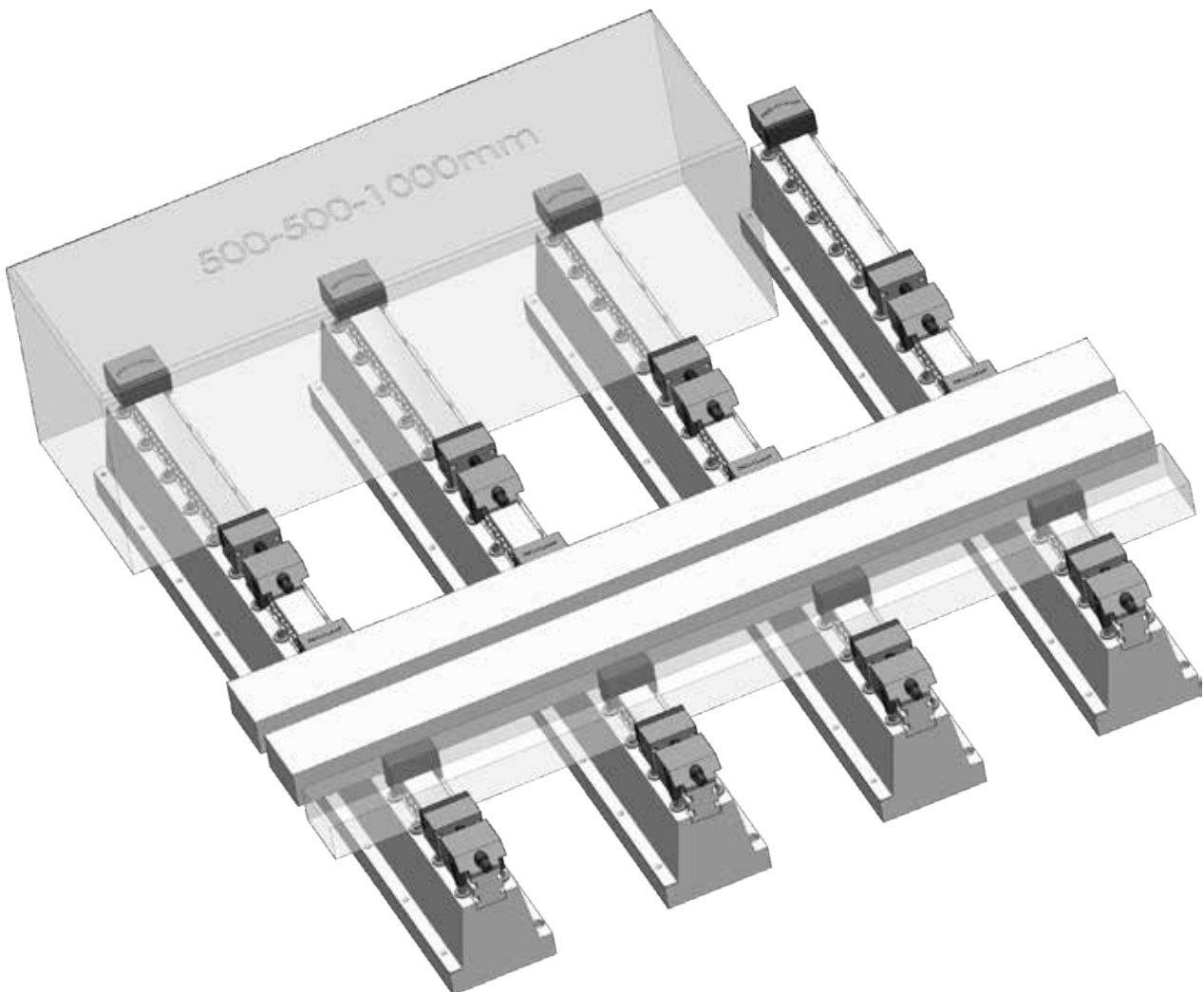
# PRO-CLAMP FLEXIBLE

## PRO-CLAMP Flexible

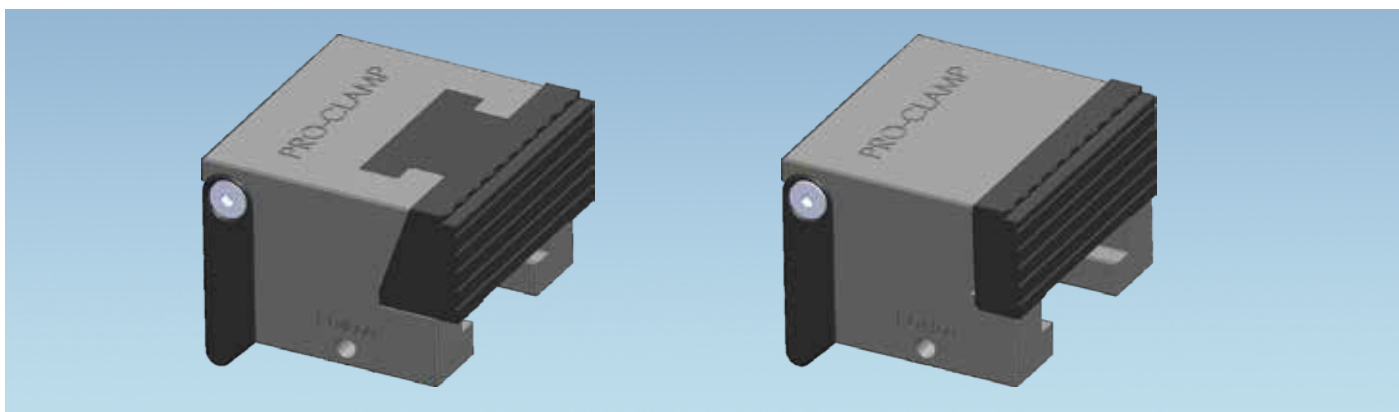
PRO-CLAMP Flexible, er en fantastisk opspændingsløsning, hvor der stilles store krav til opspændings- og omstillingstid. Flexible anvendes, hvor man med fordel kan køre enkeltstyks produktion. Omstillingstiden er på få sekunder fra emne til emne. Systemet er også egnet til serieproduktion, hvor man ved kun at spænde på eet spindel, kan spænde flere emner fast samtidig. Dermed kan man få mere ubemandet køretid på maskinen og kan producere efter normal arbejdstid. Systemet er rengøringsvenligt. Ingen huller i kæber, bakker og stamme. Omstillingstid er fra 0-1000 mm på få sekunder. Systemet er opbygget sådan, at man kan vende spændeenhederne 180 grader og spænde fra begge sider af et asymmetrisk emne. Skruestikken kan fås med pull-down i bakkerne, så emnet presses ned mod parallelskinne/understøtningen. PRO-CLAMP System er dansk produceret og kan i Polund tilpasses efter kundens ønske.

## PRO-CLAMP Flexible

PRO-CLAMP Flexible is an amazing solution for clamping, when the demand for clamping- and changeover time is high. Flexible is profitable in production of single work pieces. Changing time is a few seconds from one work piece to another. The system is also suitable for series production. By tightening one mandrel you can clamp several work pieces at the same time. Achieving more unmanned uptime on the machine after normal working hours. The system is cleaning-friendly. No holes or grooves in jaws and stem. Changing time from 0 to 1000 mm in a few seconds. The system is constructed to enable the clamping device to turn by 180 degrees and to clamp from both sides of an asymmetric work piece. The vice is available with pull-down in the jaws. Enabling the work piece to be pressed down towards the support. PRO-CLAMP Systems is produced in Denmark and can by Polund A/S be customised to fulfil the customer's requirements.



# PRO-CLAMP FLEXIBLE



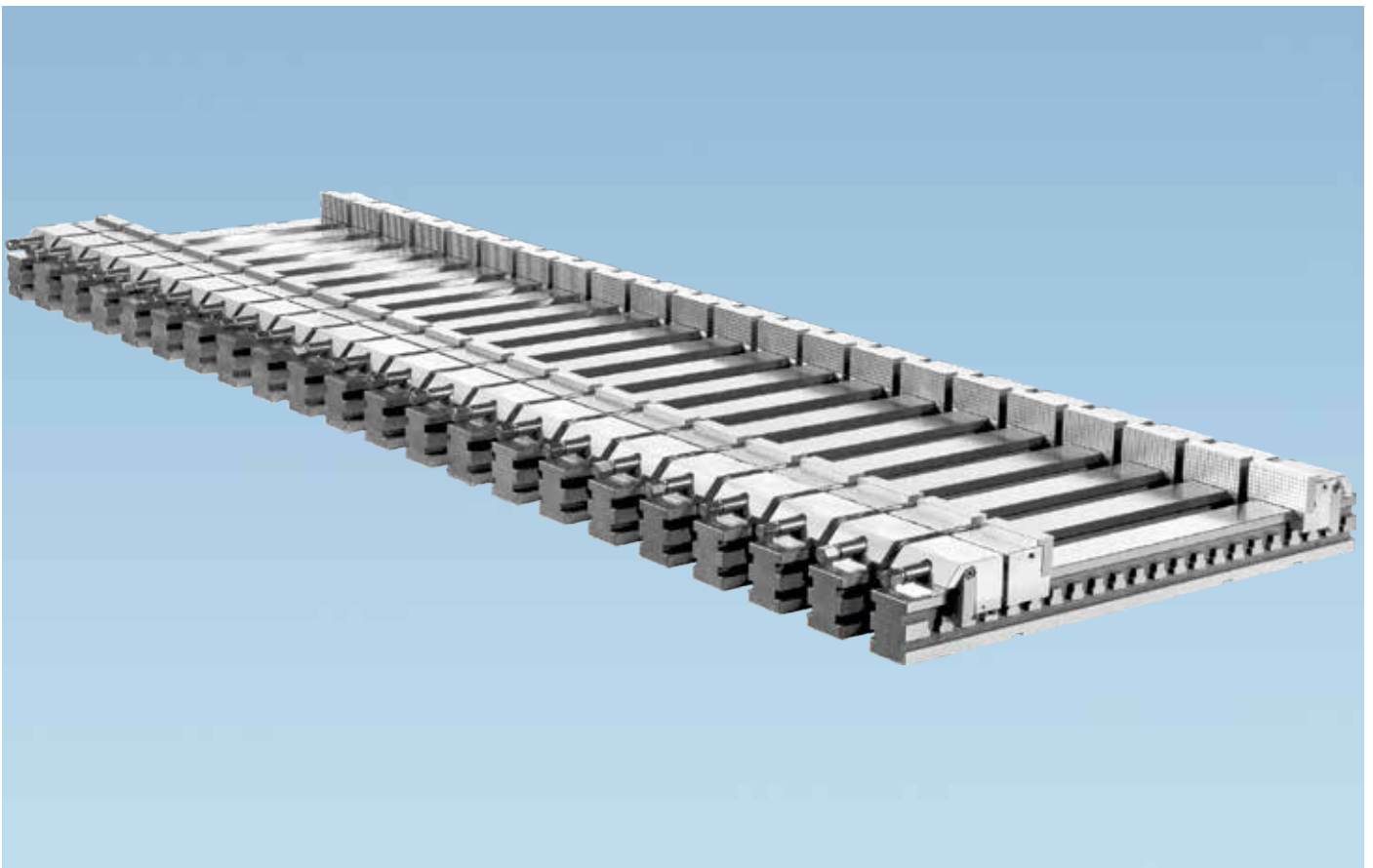
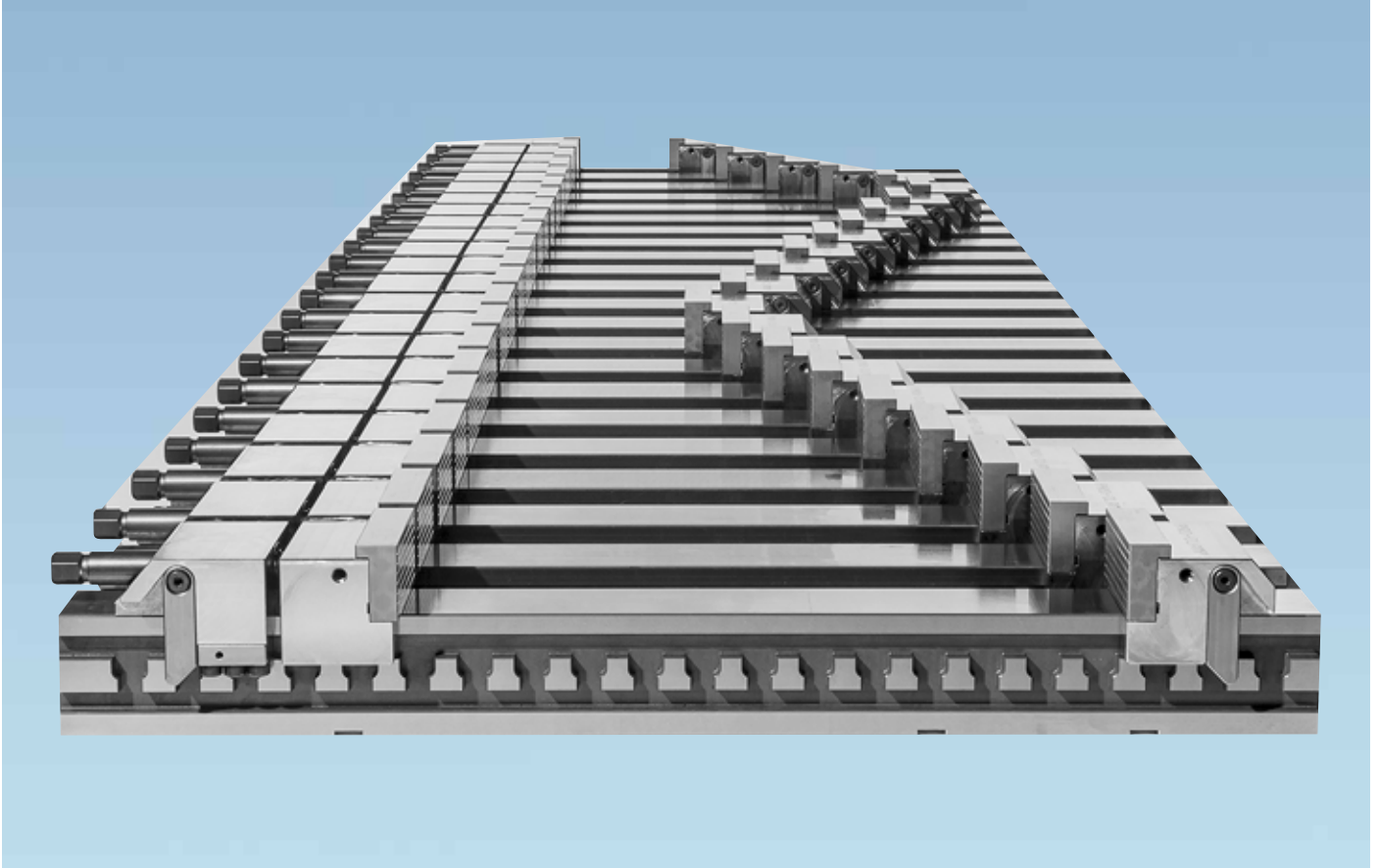
## PRO-CLAMP Flexible

- Den fastflytbare kæbe kan placeres på stammen efter operatørens ønske
- Alle bakker under tilbehør, kan kombineres med den fastflytbare kæbe F4100
- Mulighed for ekstra fastgørelse med 1 stk. M10 pinolskrue
- F4000 er udstyret med en hurtigudskiftelig bakke med 0,2 mm pull-down, som ikke kræver værktøj ved udskiftning
- Præcisionen på den fastflytbare kæbe er +/- 0,03 mm. For højere præcision kan de hærdede bakker slibes/tilpasses

## PRO-CLAMP Flexible

- The fixed/movable jaw can be placed on the vice after operators wish
- All jaws in Accessories can be combined with the fixed/movable jaw F4100
- Extra fixing with 1 pc. M10 set screws – optional
- The F4000 is fitted with a quick removable jaw with 0,2 mm pull-down, which does not need tools for changing
- The precision on the fixed/movable jaw is +/- 0,03 mm. For higher precision the hardened jaws can be planed/customized

# PRO-CLAMP FLEXIBLE



# PRO-CLAMP FLEXIBLE

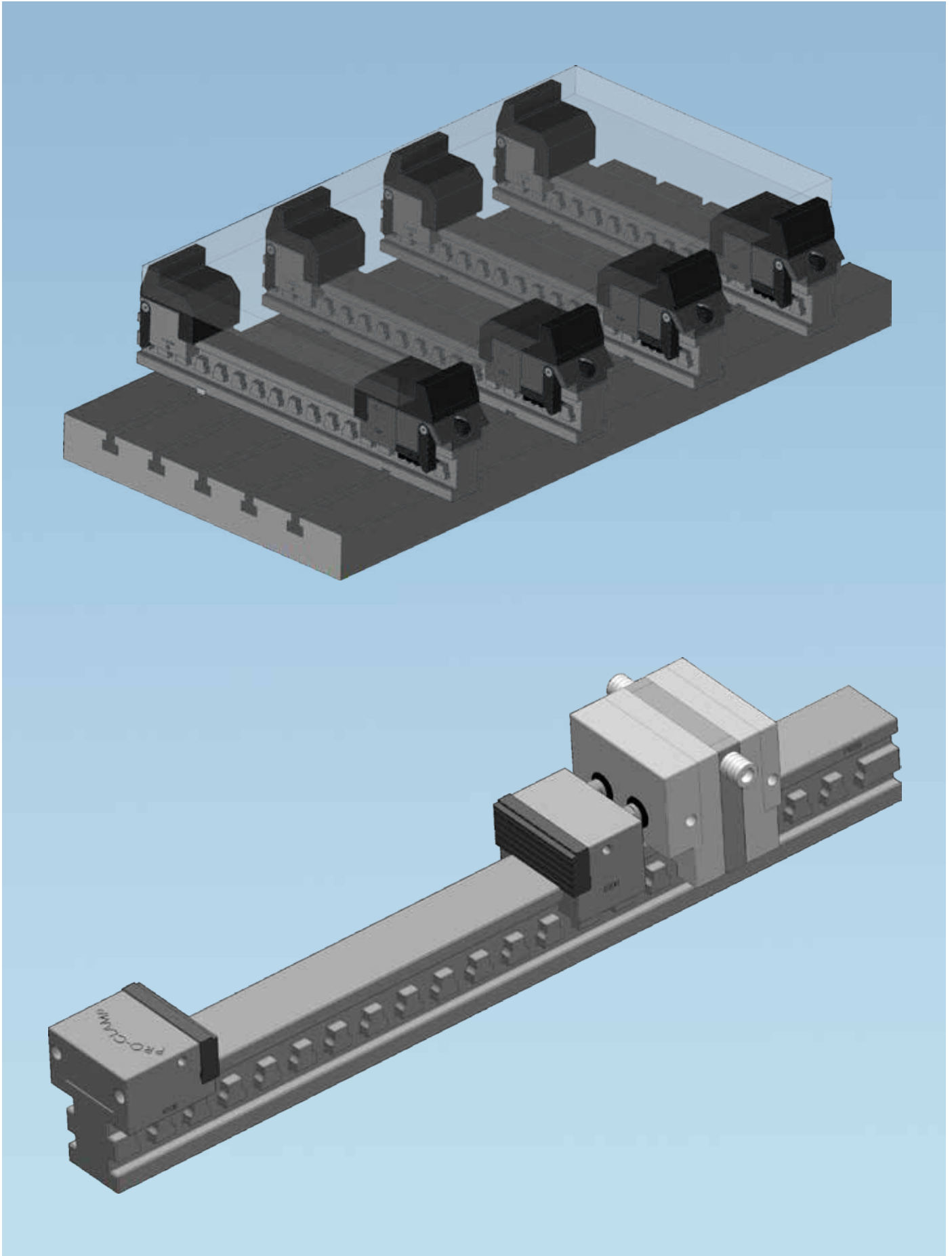




# PRO-CLAMP FLEXIBLE



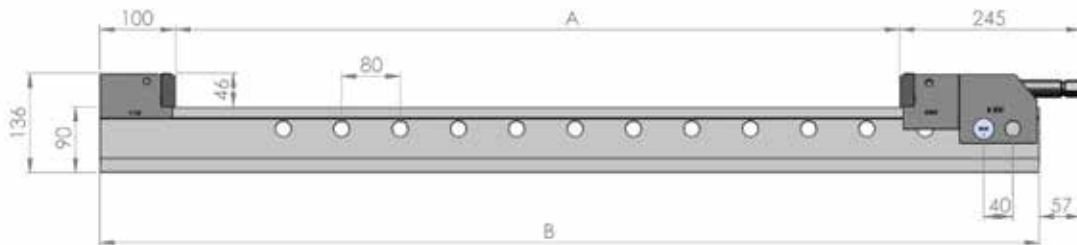
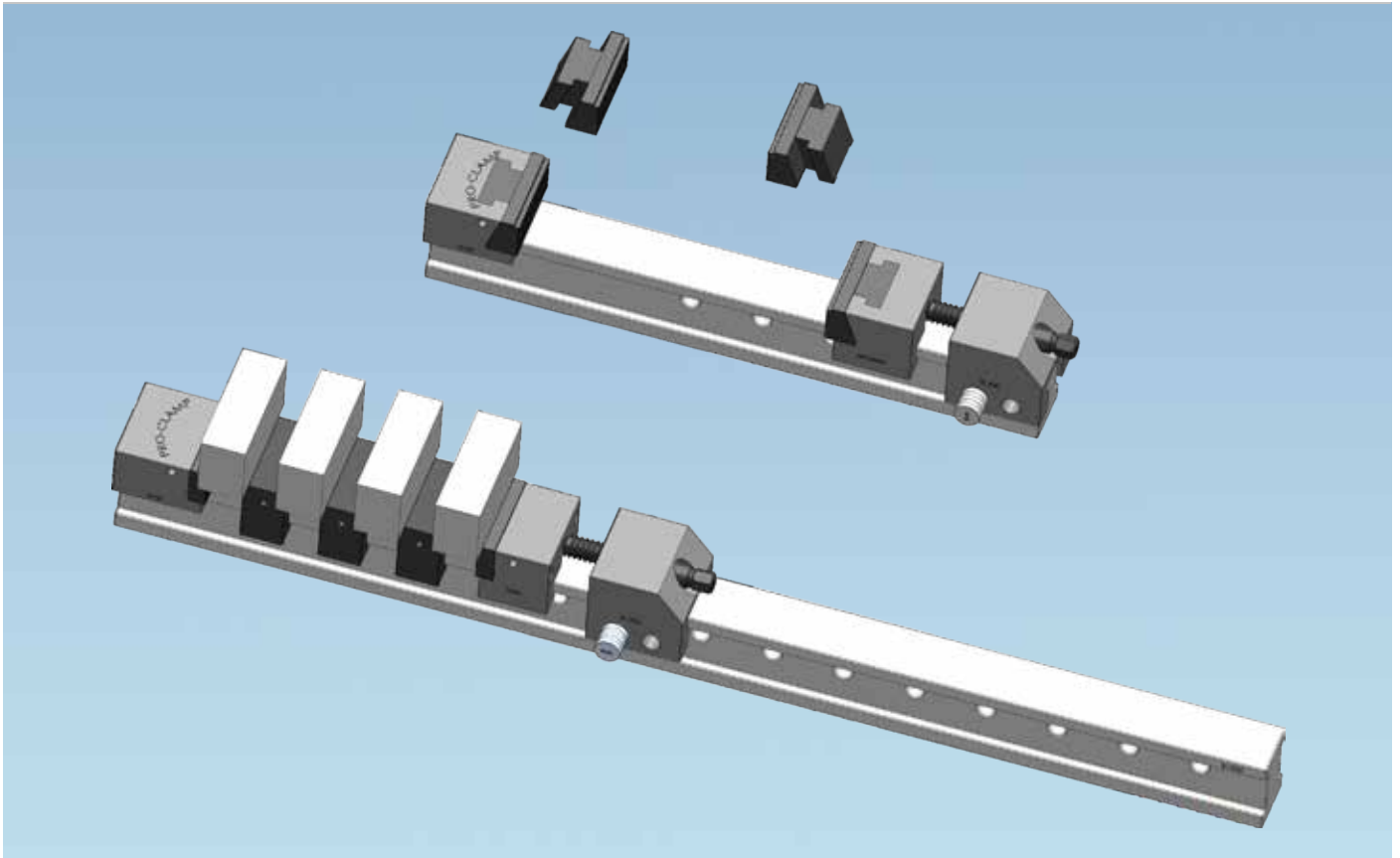
# PRO-CLAMP FLEXIBLE



# PRO-CLAMP FLEXIBLE



# PRO-CLAMP BASIC



Data sheet PRO-CLAMP Basic

Item no.	Jaw width (mm)	Jaw height (mm)	A: Opening (mm)	B: Length (mm)	Clamping force (t)	Weight (Kg)
B400	111	46	400	688	7	39
B600	111	46	600	888	7	48
B800	111	46	800	1088	7	57
B1000	111	46	1000	1288	7	66
BXXXX	111	46	customised		7	
Spindle travel 45 mm						

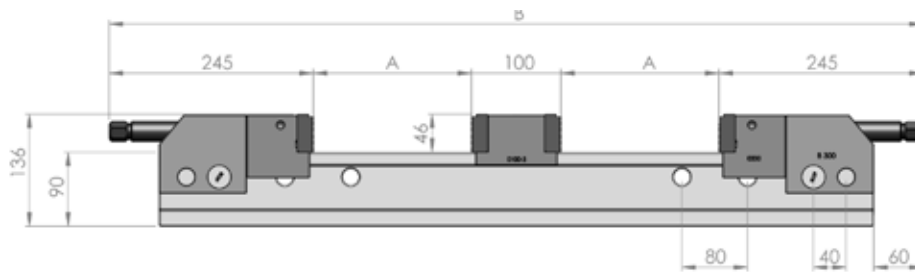
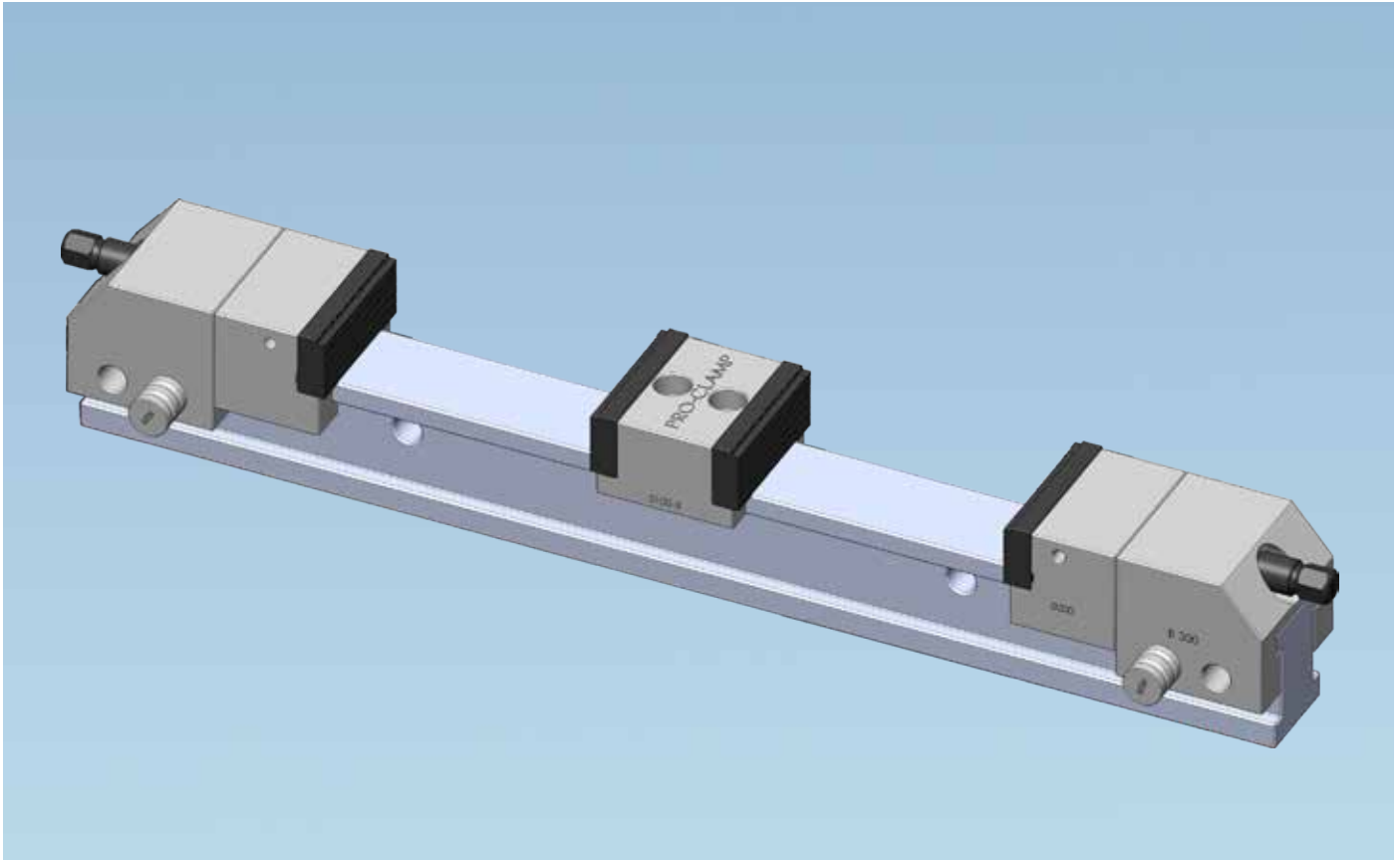
## Kendetegn ved PRO-CLAMP Basic

- Opspænding af 1 eller flere emner
- Ideel til vertikale opspændinger
- Spændvidde standard op til 1000 mm
- Spindelvandring 45 mm
- Kan tilpasses særlige kundeønsker

## Features of PRO-CLAMP Basic

- Clamping one or more workpieces
- Ideal for vertical fixing
- Span standard up to 1000 mm
- Spindle travel 45 mm
- Can be adapted to specific customer requirements

# PRO-CLAMP BASIC



Data sheet PRO-CLAMP Basic Double

Item no.	Jaw width (mm)	Jaw height (mm)	A: Opening (mm)	B: Length (mm)	Clamping force (t)	Weight (Kg)
B200x2	111	46	200	990	7	55
B240x2	111	46	240	1070	7	60
B280x2	111	46	280	1150	7	65
B320x2	111	46	320	1230	7	70
Customised in 40 mm steps						

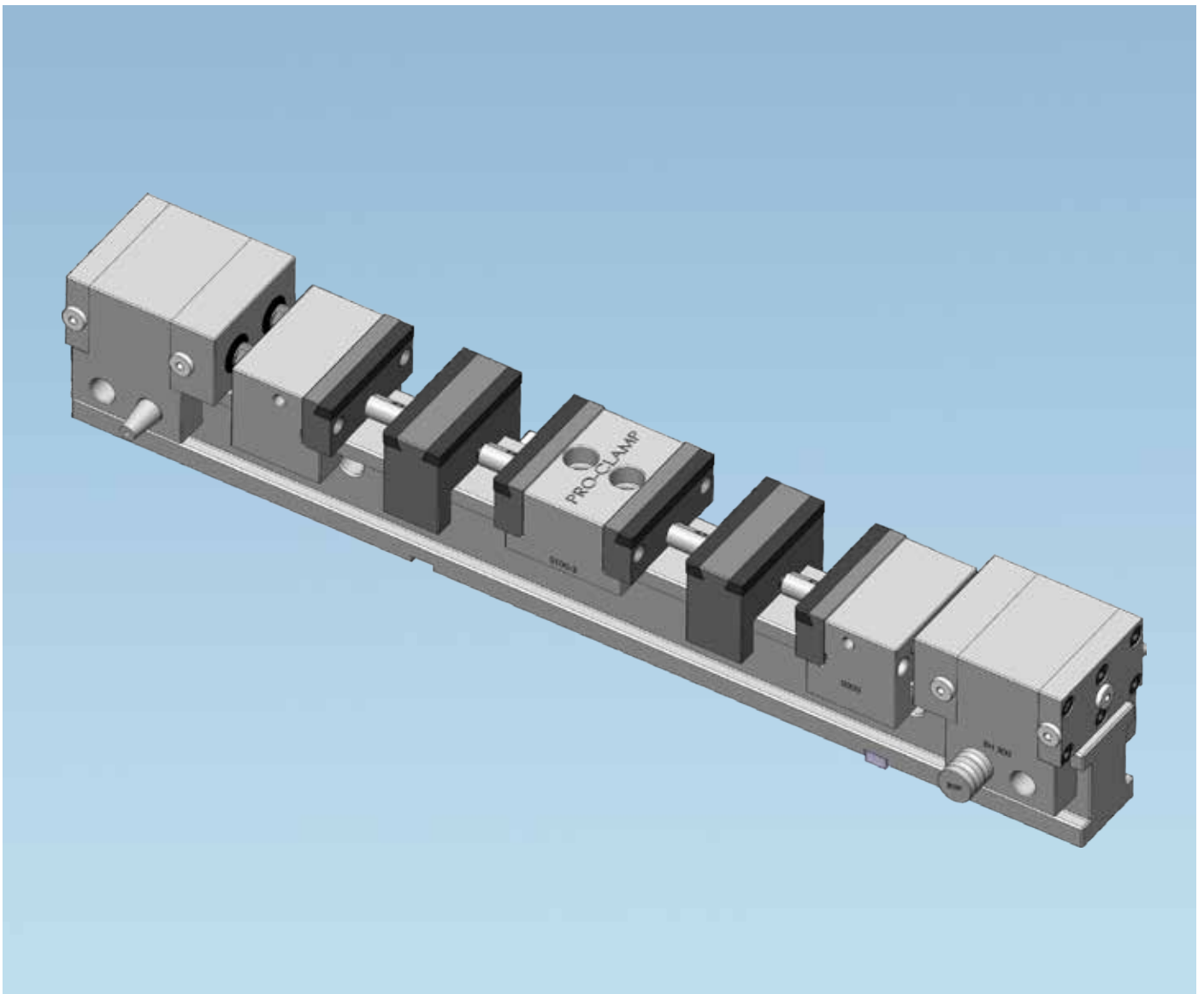
# PRO-CLAMP BASIC

## PRO-CLAMP Basic

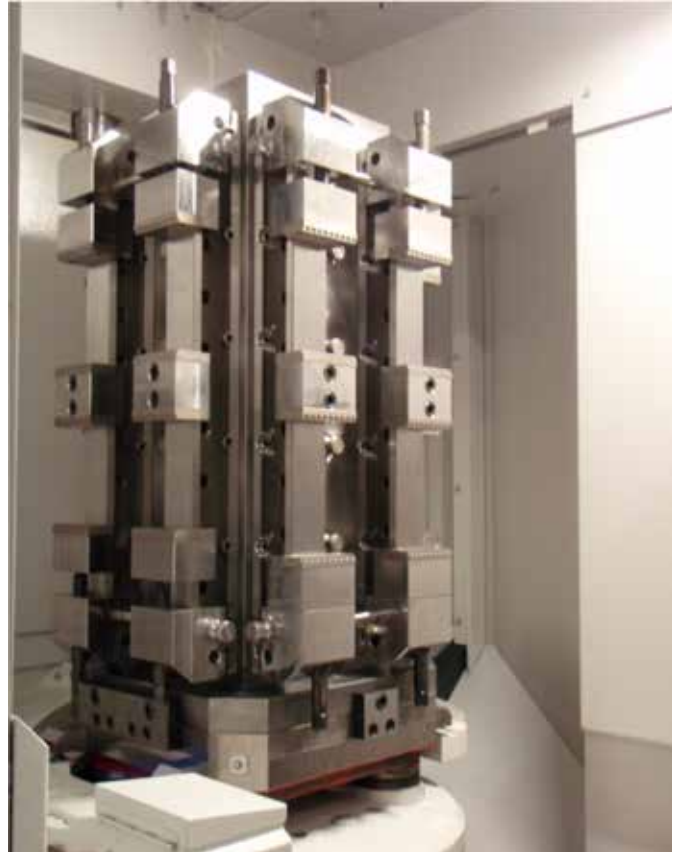
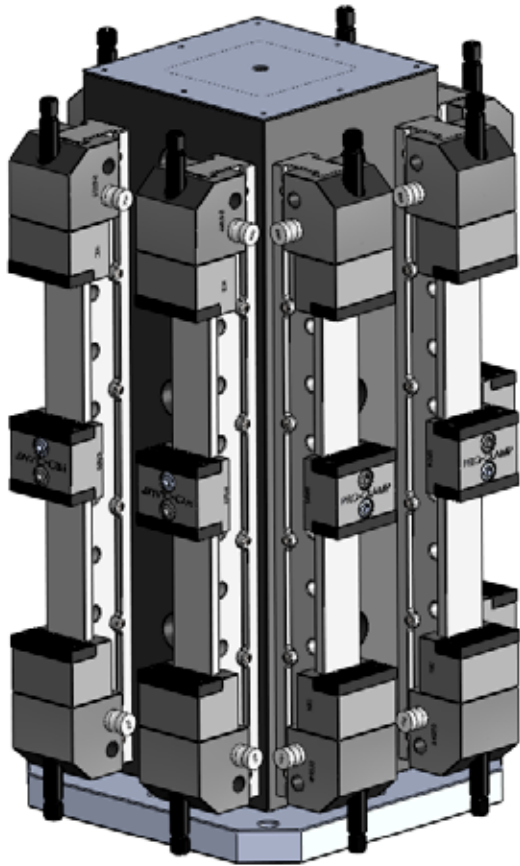
PRO-CLAMP Basic er den enkle løsning med få sliddele, hvor den faste kæbe er fastspændt på stammen, og hvor der samtidig er stor fleksibilitet. Spændeenheden flyttes på få sekunder i trin á 40 mm, og låses fast på stammen med en låsepind. Dette gør at PRO-CLAMP Basic med fordel også kan anvendes ved vertikal opspænding på kuber. Der kan monteres flere spændeenheder på samme stamme af gangen, og flere skruestikke kan lines op på samme bord eller på samme kube.

## PRO-CLAMP Basic

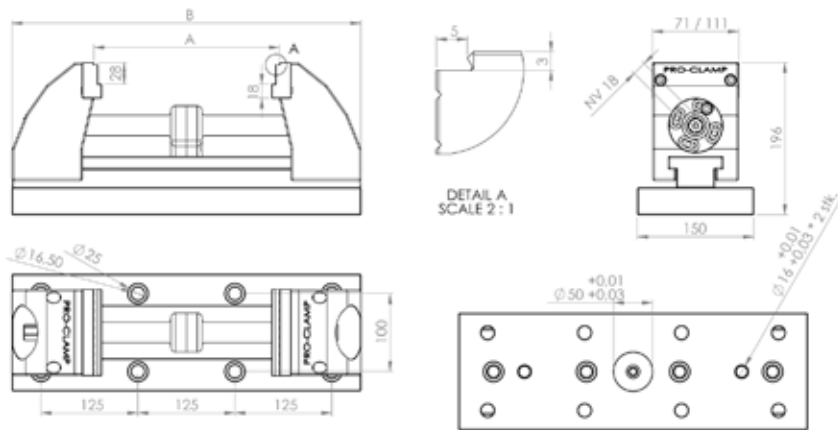
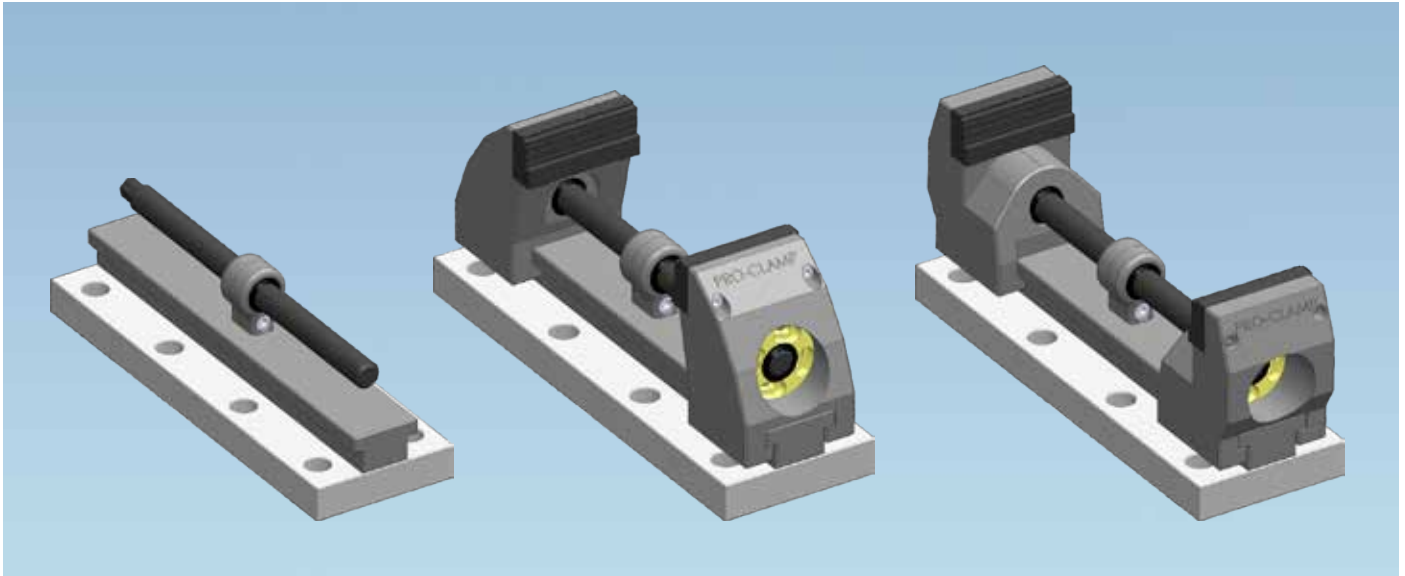
PRO-CLAMP Basic is the simple solution with few wear parts, where the fixed part is fastened to the body, and where there is also great flexibility. Clamping device can be moved and fixed in the body with a locking pin in seconds in increments of 40 mm. This allows PRO-CLAMP Basic to be used with vertical clamping on cubes. Several clamping devices can be mounted on the body at the same time, and several vices can be lined up on the same table or on the same cube.



# PRO-CLAMP BASIC



# PRO-CLAMP 5-AXIS VICE



Data sheet PRO-CLAMP 5-Axis vice

Item no.	Jaw width (mm)	Jaw height (mm)	A: Opening (mm)	B: Length (mm)	Clamping force (t/Nm)	Weight (Kg)
CT5-240	71	46	10-240	450	5/200	39
CT5-240	111	46	10-240	450	5/200	39
CT5-370	71	46	145-370	476	5/200	39
CT5-370	111	46	145-370	476	5/200	39

## Kendetegn ved PRO-CLAMP Centrerspænder

- Centrerende skruestik
- Velegnet til 5-akset bearbejdning
- Spændevide 10-240 mm eller 145-370 mm
- Spændekraft 5 t. v/200 Nm
- Kan monteres direkte på maskinplanet
- Stabil og kraftig opbygning – stabil opspænding
- God plads til maskinens spindel
- Kalibrering af centring kan udføres af operatøren
- Bakker efter kundens ønske
- Kæbe-/bakkebredde 71 eller 111 mm
- Rengøringsvenlig
- Ingen behov for prægestation – PRO-CLAMP præger direkte i skruestikkene

## Features of PRO-CLAMP 5-Axis vice

- Centering Vice
- Suitable for 5-Axis machining
- Clamping range 10-240 mm or 145-370 mm
- Clamping force 5 ton at 200 Nm
- Can be mounted directly on the machine table
- Stable and strong structure – stable clamping
- Good room for the machine's spindle
- Calibrating of the center, can be performed by the operator
- Jaws by customer's wishes
- Jaw width, 71 or 111 mm
- Easy to clean
- No need for embossing station - we emboss directly in the vices



# PRO-CLAMP 5-AXIS VICE

## PRO-CLAMP Centrerspænder

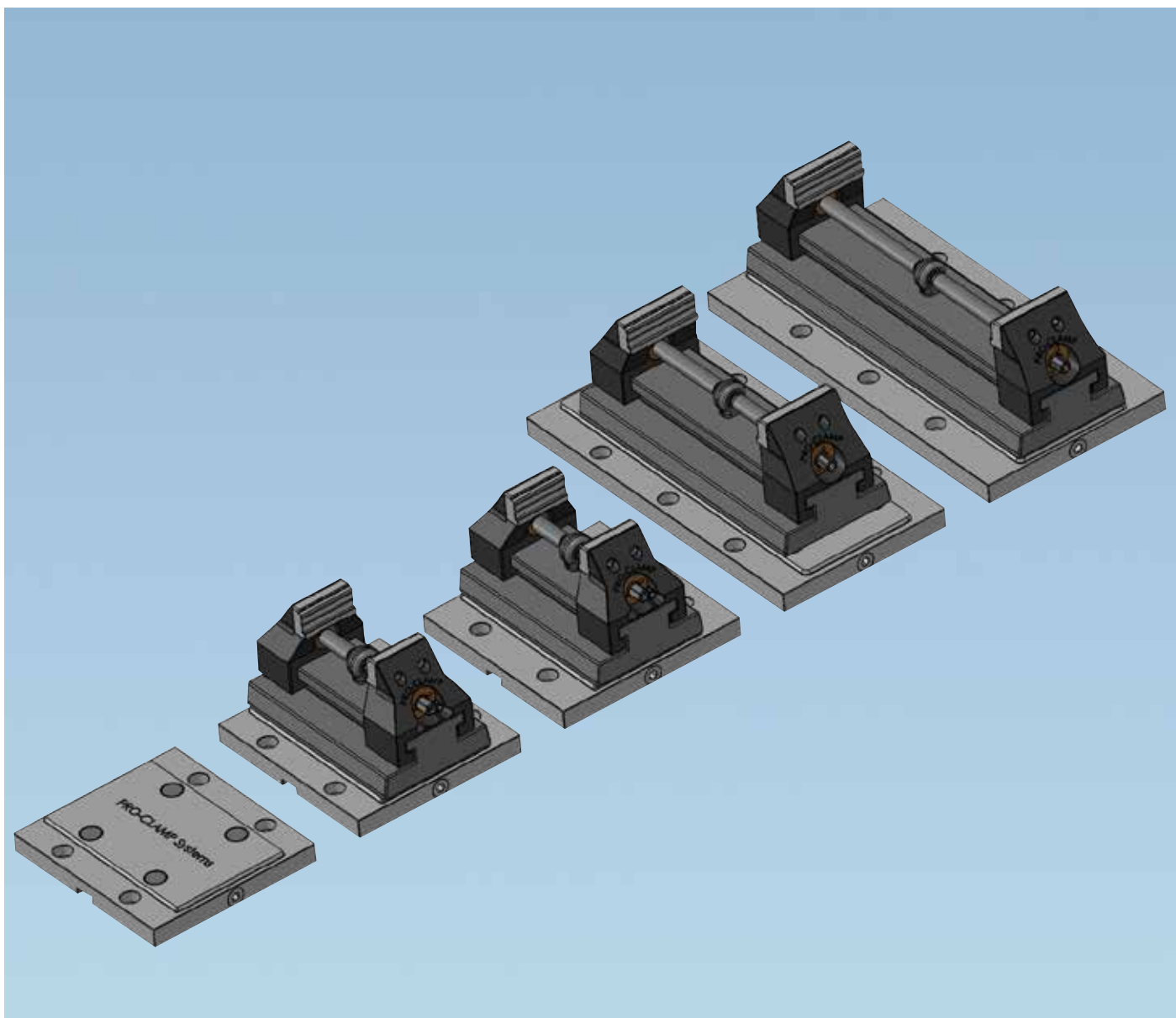
PRO-CLAMP Centrerspænder har en uovertruffen spændvidde og er særdeles velegnet til alle former for opspænding i forbindelse med 5-akset bearbejdning. Specielt for centrerspænderen kan næves at man ikke har brug for en ekstern prægestation, da der præges direkte i skruestikken. Den unikke opbygning sikrer en meget stor spændvidde samt en høj og ensartet spændekraft i hele spændvidden.

## PRO-CLAMP 5-Axis Vice

PRO-CLAMP 5-Axis vice has a long clamping distance and is ideal for all kinds of clamping associated with 5-Axis machining. The unique design ensures a very large clamping range, as well as a high and uniform clamping force in the whole clamping range.



# PRO-CLAMP MINI 5-AXIS VICE



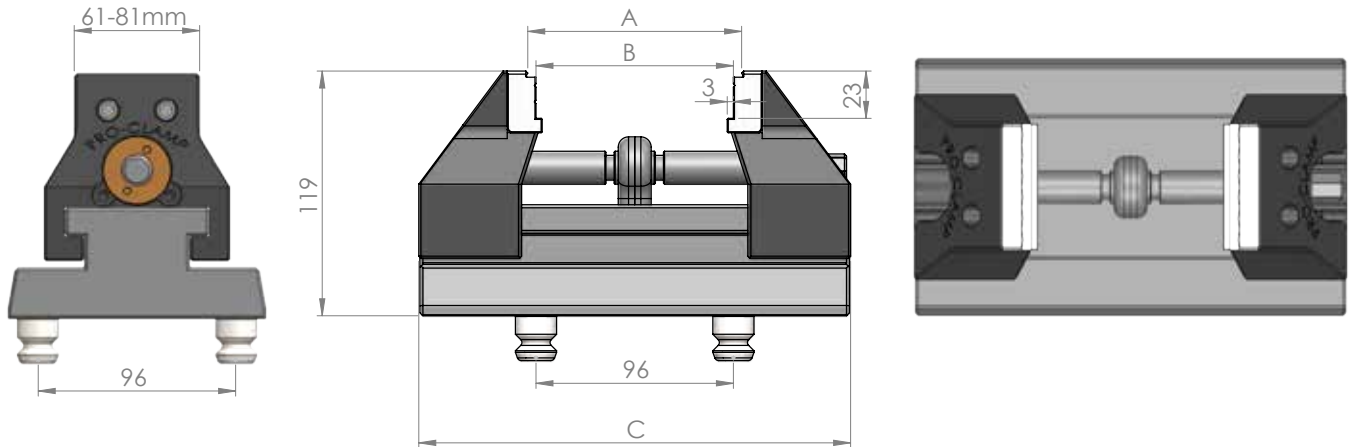
## PRO-CLAMP Mini Centrerspænder

PRO-CLAMP Mini Centrerspænder er særdeles velegnet til alle former for opspænding i forbindelse med både 3-, 4- og 5-akset bearbejdning. Specielt for centrerspænderen kan næves at man ikke har brug for en ekstern prægestation, da der præges direkte i skruestikken. Spændvidden justeres, som standard mekanisk. Den unikke opbygning sikrer en meget stor spændvidde samt en høj og ensartet spændekraft i hele spændvidden. God adgang til bearbejdning fra alle sider.

## PRO-CLAMP Mini 5-Axis vice

PRO-CLAMP Mini 5-Axis vice is highly suitable for all kinds of clamping associated with both 3-, 4- and 5-Axis machining. Especially for the Mini 5-Axis Vice can be mentioned, that there is no need for an extern Embossing Station, as it embosses directly in the Vice. The clamping range is as standard adjusted mechanically. The unique design ensures a very large clamping range and a high and uniform clamping force in the whole clamping range. Good access for machining from all sides.

# PRO-CLAMP MINI 5-AXIS VICE



Skruestikken er forberedt til en centerafstand på 96\*96 eller 110\*55 mm for tilpasning til nulpunktsspændesystemet.

The vice is prepared for a center distance of 96\*96 or 110\*55 mm for adaption to the zero point clamping system.

Data sheet PRO-CLAMP Mini

Item no.	Jaw width (mm)	Jaw height (mm)	A: Opening (mm)	B: Opening (mm)	C: Length (mm)	Clamping force (t/Nm)	Weight (Kg)
CT5-100	61	23	104	96	209	4/80	9
CT5-100	81	23	104	96	209	4/80	9
CT5-200	61	23	204	196	309	4/80	12
CT5-200	81	23	204	196	309	4/80	12
CT5-300	61	23	304	296	409	4/80	15
CT5-300	81	23	304	296	409	4/80	15

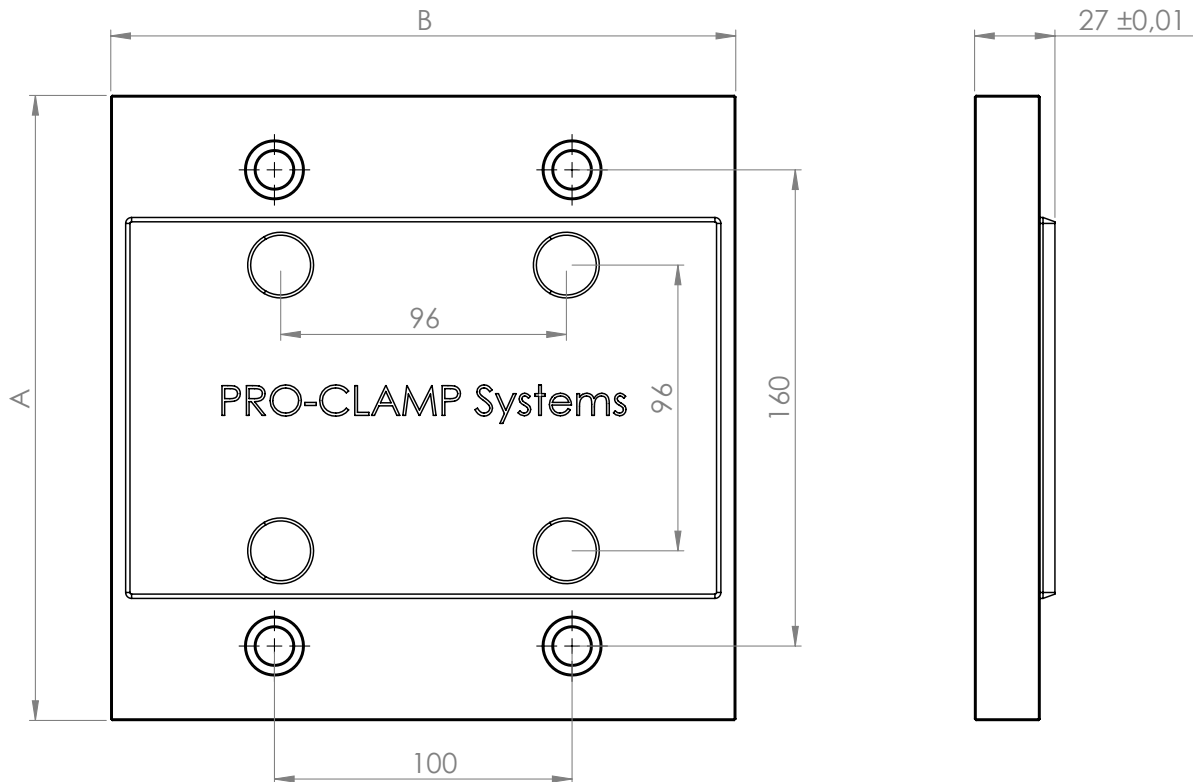
## Kendetegn ved PRO-CLAMP Mini Centrerspænder

- Centrerende skruestik
- Velegnet til 5-akset bearbejdning
- Spændevide 0-300 mm
- Spændekraft 4 t. v/80 Nm
- Kan monteres direkte på Polund's eget 0-pkt-system eller de fleste andre 0-pkt-systemer
- Stabil og kraftig opbygning
- God plads til maskinens spindel
- Kalibrering af centrering kan udføres af operatøren
- Bakker efter kundens ønske
- Kæbe-/bakkebredde 61 eller 81 mm
- Rengøringsvenlig
- Ikke brug for ekstern prægestation, da der præges direkte i skruestikken

## Features of PRO-CLAMP 5-Axis Mini Vice

- Centering Vice
- Suitable for 5-Axis machining
- Clamping range 0-300 mm
- Clamping force 4 ton at 80 Nm
- Can be mounted directly on Polund's or others zero-point systems
- Stable and strong structure
- Good space for the machine's spindle
- Calibrating of the center, can be performed by the operator
- Jaws by customer's wishes
- Jaw width, 61 or 81 mm
- Easy to clean
- No need for extern embossing station as we emboss directly in the vice

# PRO-CLAMP MINI 5-AXIS VICE



Data sheet PRO-CLAMP Zero-point-plate Mini

Item no.	A: Width (mm)	B: Length (mm)	Weight (Kg)
ZPM-192-210	210	192	6
ZPM-192-384	384	192	7
ZPM-210-210	210	210	12
ZPM-210-420	420	210	15

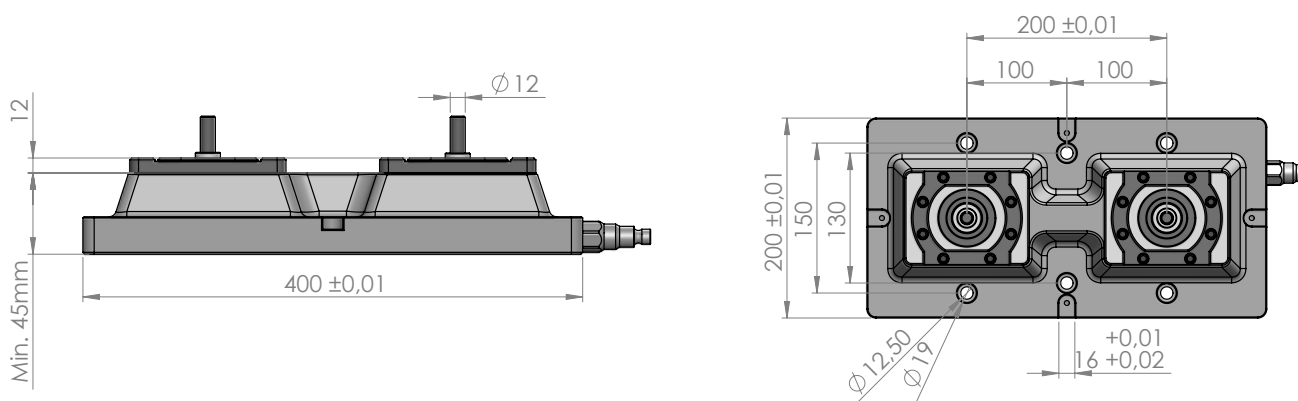
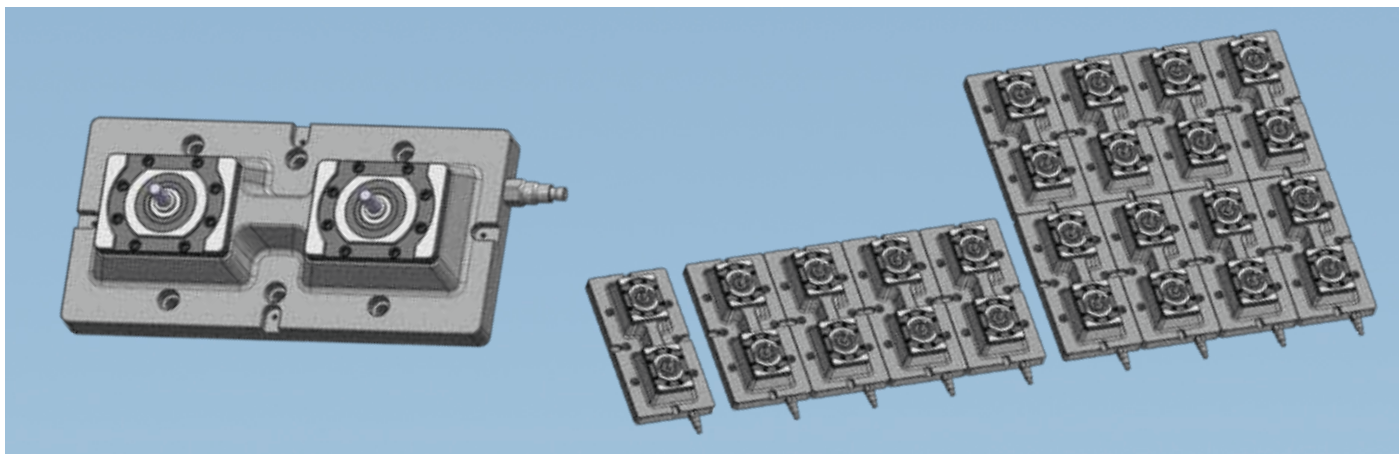
## PRO-CLAMP Nulpunktsystem til Mini

PRO-CLAMP System's zero-point system er et unikt nulpunkt-system som er til hurtig opspænding af PRO-CLAMP Mini centerspænder eller emner direkte; med en nøjagtighed på +/- 0,01 mm. Zero-point basisplader laves i flere størrelser efter opgave og eventuelt tilpasset andre systemer. Systemet kan laves med standard bolthuller eller bestilles med hulplacering i systemet efter eget valg. Zero-point basisplader er 27 mm i højden og har en spændkraft på 6 t. Systemet er et manuelt system og der skal ikke spændes med moment. Der skal spændes til systemet selv stopper; det kan man tydelig fornemme.

## PRO-CLAMP Zero-Point System Mini

The PRO-CLAMP Zero-Point System Mini is a unique zero-point system from the PRO-CLAMP Systems product portfolio. The Zero-Point System Mini enables fast clamping of PRO-CLAMP Mini 5-Axis-centring vice or directly of workpieces. With an accuracy of +/- 0.01 mm. The base plate of the Zero-Point Mini System is available to order in various sizes and can be adapted to other systems if it is necessary. Furthermore, the system can be mounted directly on the machine table through the standard fixing holes or ordered in the dimensions for a system of your choice. The height of the base plate is 27 mm. The clamping force of the system is 6 t. The operation is exclusively manual and does not require any torque during clamping. The maximum clamping point is clearly noticeable as the system stops automatically during clamping.

# PRO-CLAMP ZERO-POINT SYSTEM



Data sheet PRO-CLAMP Zero-point-plate

Item no.	Jaw width (mm)	Jaw height (mm)	A: Opening (mm)	B: Opening (mm)	C: Length (mm)	Clamping force (t/Nm)	Weight (Kg)
CT5-100	61	23	104	96	210	4/80	9
CT5-100	81	23	104	96	210	4/80	9
CT5-200	61	23	204	196	310	4/80	12
CT5-200	81	23	204	196	310	4/80	12
CT5-300	61	23	304	296	410	4/80	15
CT5-300	81	23	304	296	410	4/80	15

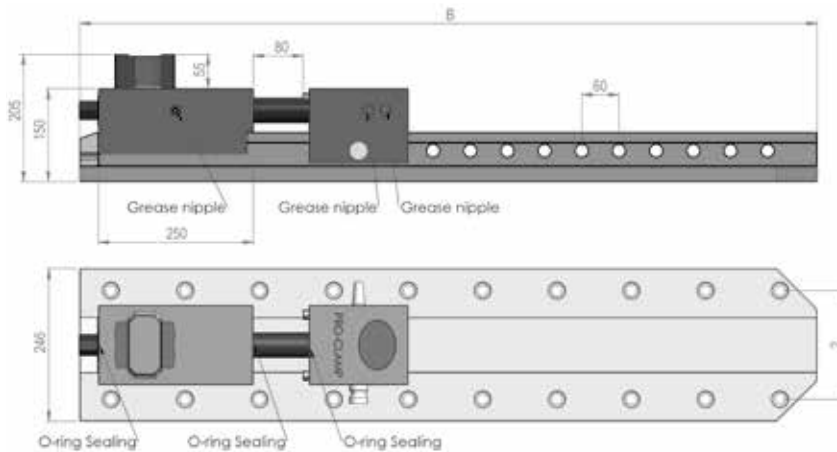
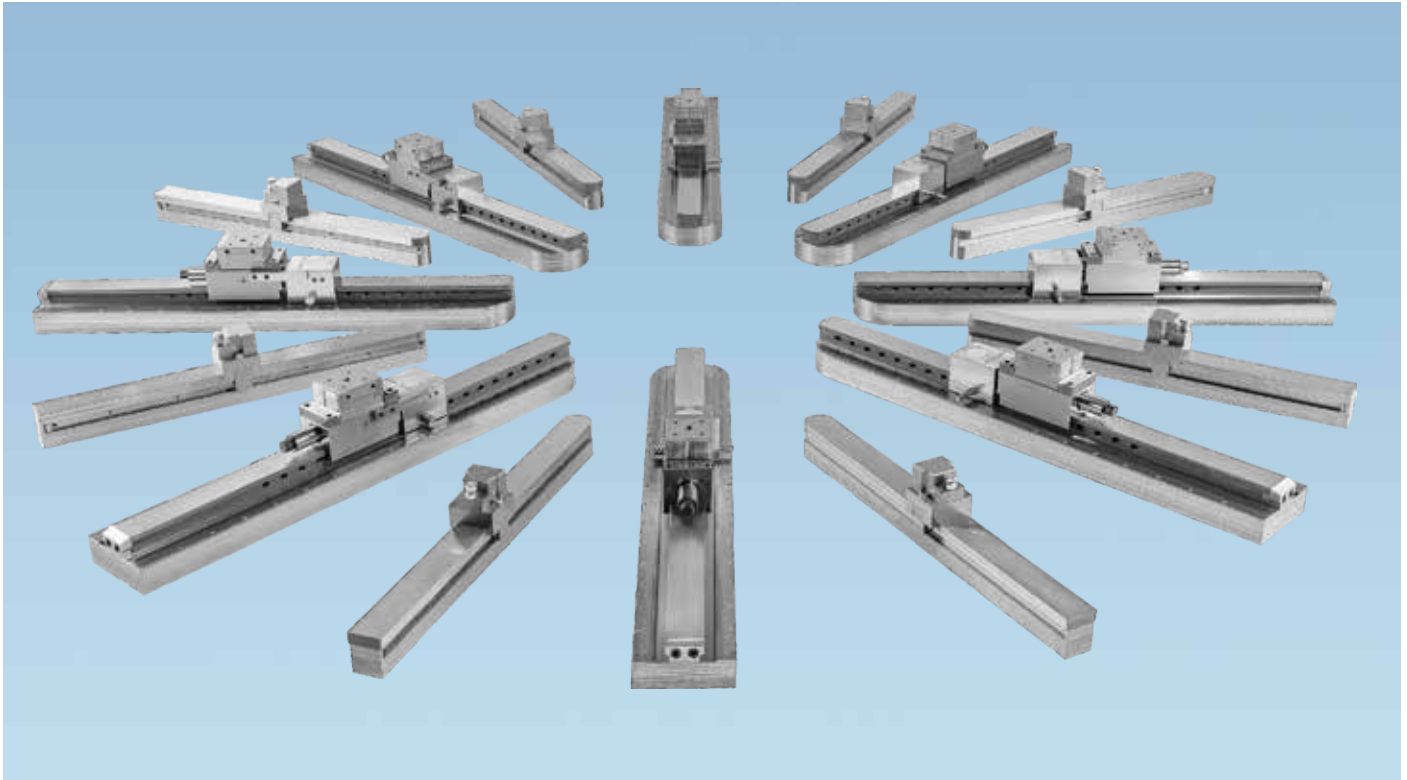
## PRO-CLAMP Zero-point system ZP 125-94

PRO-CLAMP System's zero-point system er et unikt nulpunkt-system fra PRO-Clamp Systems, som er hurtig opspænding og positionering af diverse skruestiksløsninger og emner; direkte med en nøjagtighed på +/- 0,01 mm. Zero-point basisplader skal minimum have en højde på 45 mm plus 12 mm til nulpunkts-indsats. Systemet kan monteres med eksisterende bolthuller eller bestilles med placering i systemet efter eget valg. Zero-point systemet har en spændkraft på 7 t. pr. enhed. Systemet er med hydraulisk åbning og mekanisk lukning. Det er muligt at luftudblæsning til rengøring samt gap tjek med luft i systemet, som kontrol om skruestik eller emne er placeret. Det hurtige og præcise skift af skruestik, emne og opspænding sikrer en enorm forøgelse af maskinens produktionstid.

## PRO-CLAMP Zero-point system ZP 125-94

The PRO-CLAMP Zero-Point System ZP 125-94 is a unique zero-point system from the PRO-CLAMP Systems product portfolio. The Zero-Point System enables fast clamping and positioning of various PRO-CLAMP Systems or other clamping solutions or directly of workpieces. With a precision of +/- 0.01 mm. The ZP 125-94 consists of a base plate, which must have a height of at least 45 mm, and the zero-point insert, which is 12 mm in height. Using the existing fixing holes, the system can be mounted directly on the machine table or ordered with dimensions for a system of your choice. The clamping force is 7 t per ZP 125-94 system. The zero-point system is opened hydraulically and closed mechanically. At the same time, the system offers an air blow-out for possible cleaning as well as for a gap check with air to check whether the clamping system or the workpiece is positioned correctly. The fast and precise change of clamping system(s), workpiece(s) or fixture(s) at the same time ensures an enormous increase in the production time of the machine.

# PRO-CLAMP HEAVY



Data sheet PRO-CLAMP Heavy

Item no.	Jaw width (mm)	Jaw height (mm)	A: Opening (mm)	B: Length (mm)	Clamping force (t)	Weight (Kg)
H500	75	55	500	950	20	114
H740	75	55	740	1190	20	134
H1040	75	55	1040	1500	20	159
HXXXX	75	55	Customised			

## Kendetegn ved PRO-CLAMP Heavy

- Anvendes til karruseller/boremøller
- Spændeenhed vendbar 180 grader
- Spændvidde standard op til 1040
- Spindelvandring 80 mm
- Kan tilpasses særlige kundeønsker

## Features of PRO-CLAMP Heavy

- Used for Carousel/boring mills
- Clamping device can be rotated 180 degrees
- Span standard up to 1040 mm
- Spindle travel 80 mm
- Can be adapted to specific customer requirements

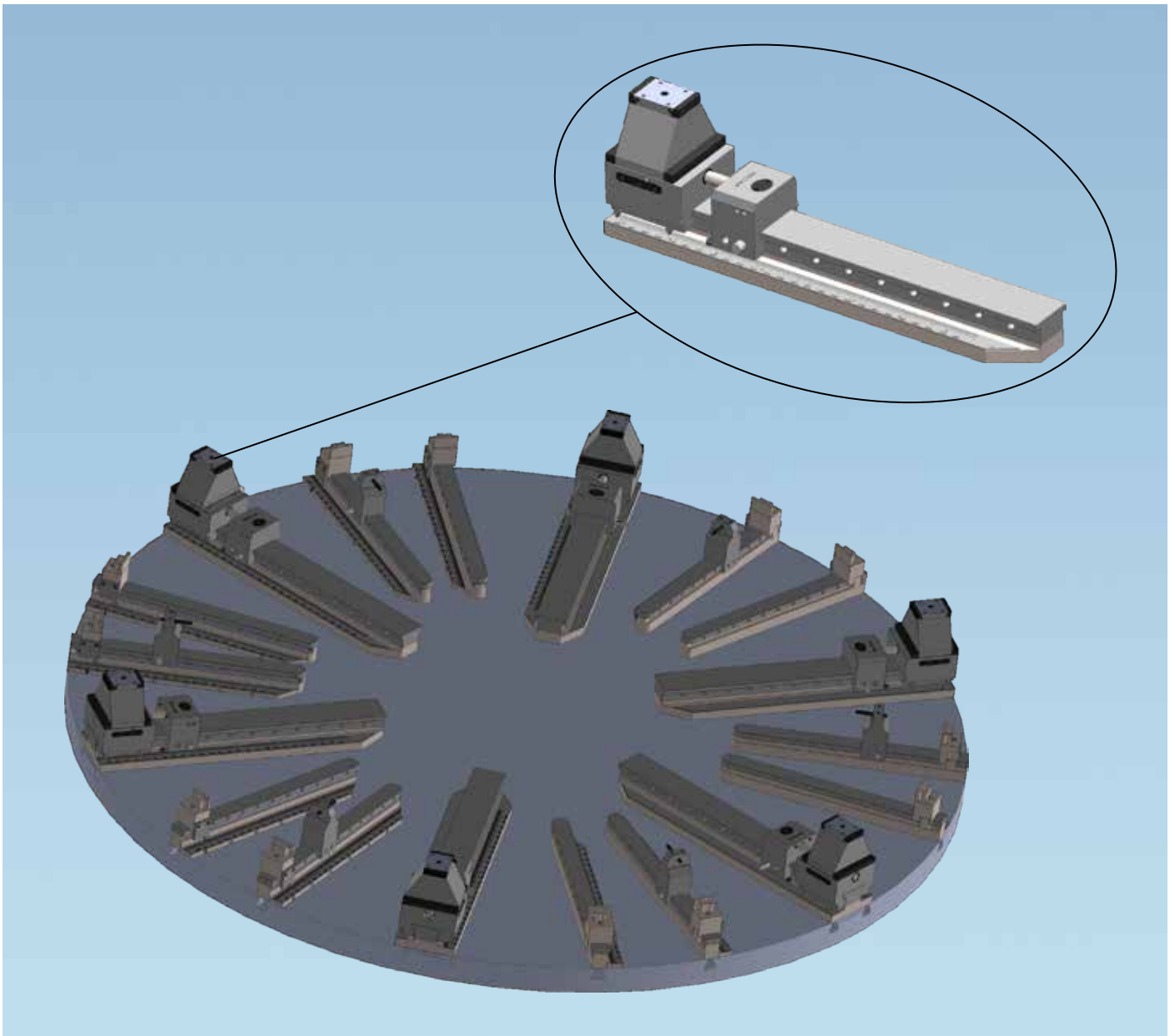
# PRO-CLAMP HEAVY

## PRO-CLAMP Heavy

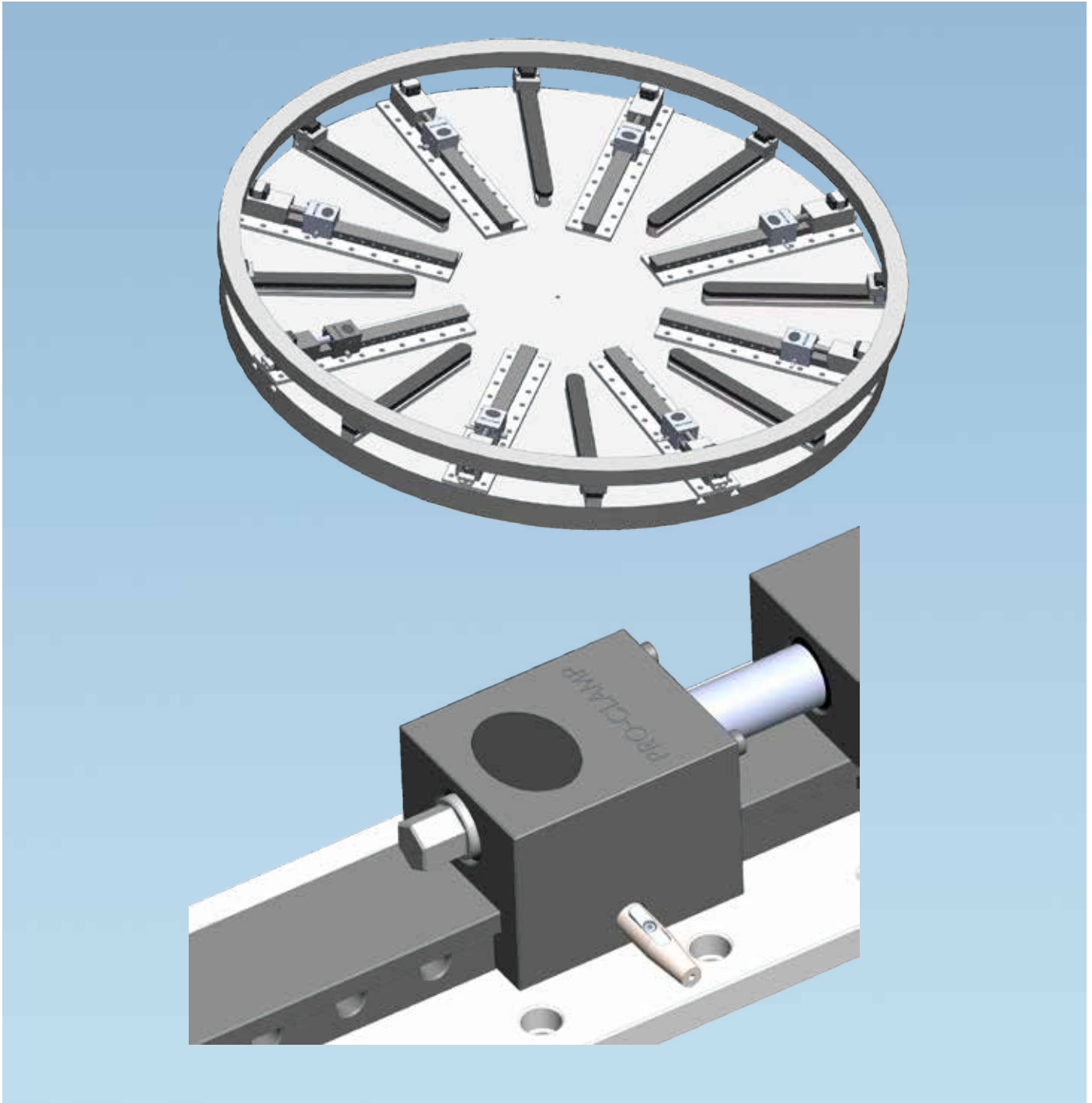
PRO-CLAMP Heavy anvendes især til karruseller/boremøller, og kan udbygges til store diametre. Den meget kraftige konstruktion sikrer en stor og ensartet spændekraft på op til 20 t. Opbygningen af stammen, uden huller, sikrer en hurtig og let fjernelse af spåner, og samtidig en meget hurtig omstillingstid – max. 10 sekunder pr. skruestik.

## PRO-CLAMP Heavy

PRO-CLAMP Heavy is mainly used for carousels/boring mills and can be expanded to large diameters. The very sturdy construction ensures a large and uniform clamping force of up to 20 ton. The structure of the body, without holes, ensures quick and easy removal of chips, as well as a very fast changeover time – at the most 10 seconds per vice.



# PRO-CLAMP HEAVY



## Spændeenhed

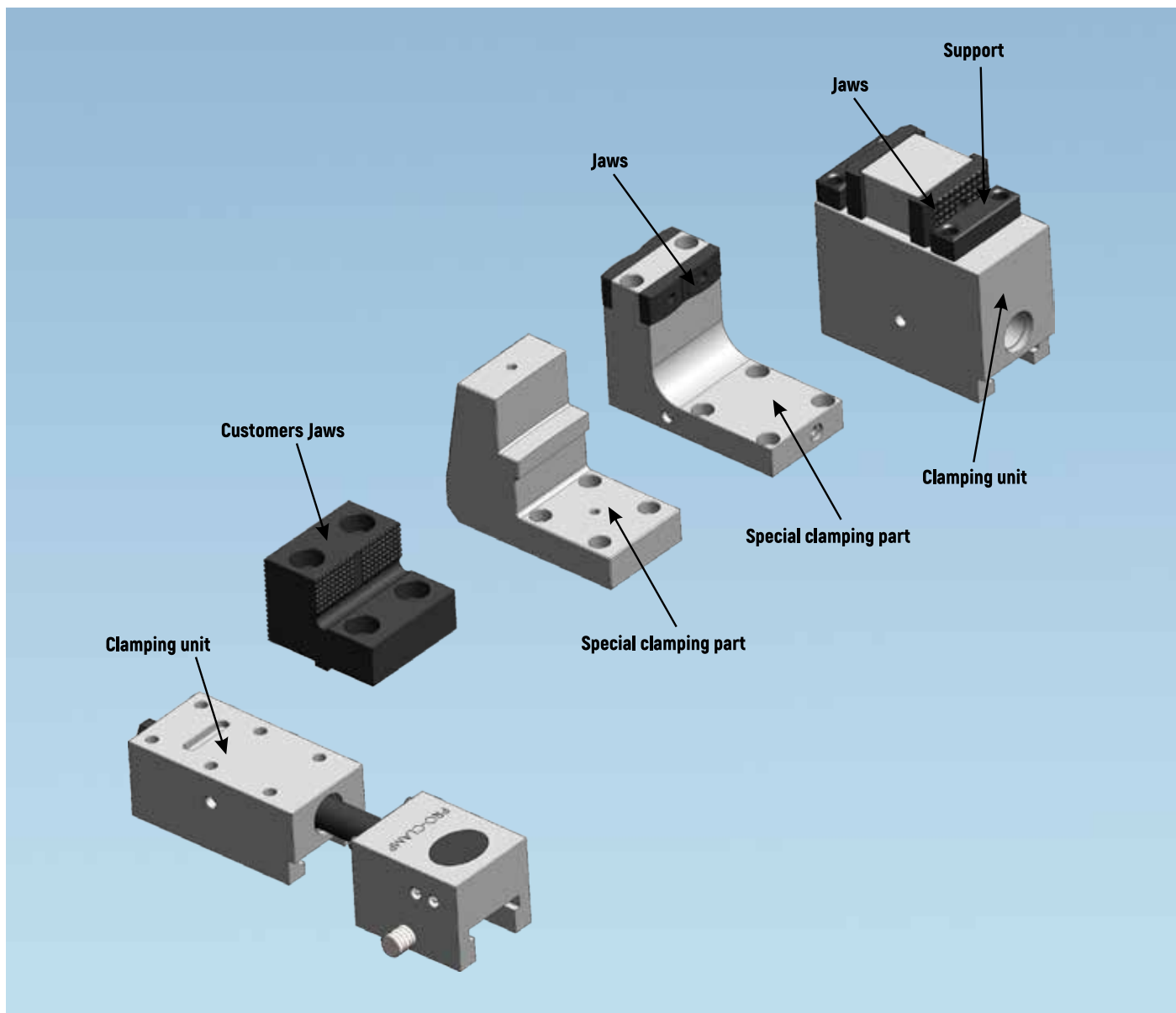
Mulighed for at vende spændeenheden med 180 grader for at udvide spændevidden, og dermed komme mere i center på maskinen. Dette ved tilføjelse af nøglevidde 30 i begge sider.

## Clamping device

As extra we offer an extra hexagon screw fitted to the clamping device. Thereby the clamping device can be turned 180° and gain increased opening.



# PRO-CLAMP HEAVY



## Spænder, kæber og bakker

Spænderen kan ændres og tilpasses kundens eksisterende bakker.

Kæber og bakker fremstilles efter kundens ønske og Polund tilpasser spænderen på skruestikken.

Special bakker kan laves så man kan spare en operation ved at give plads til drejestålet under emnet i de forhøjede bakker.

Se 4 eksempler på løsninger og spørg på en løsning til jeres produktion.

## Clamping unit, clamp part and jaws

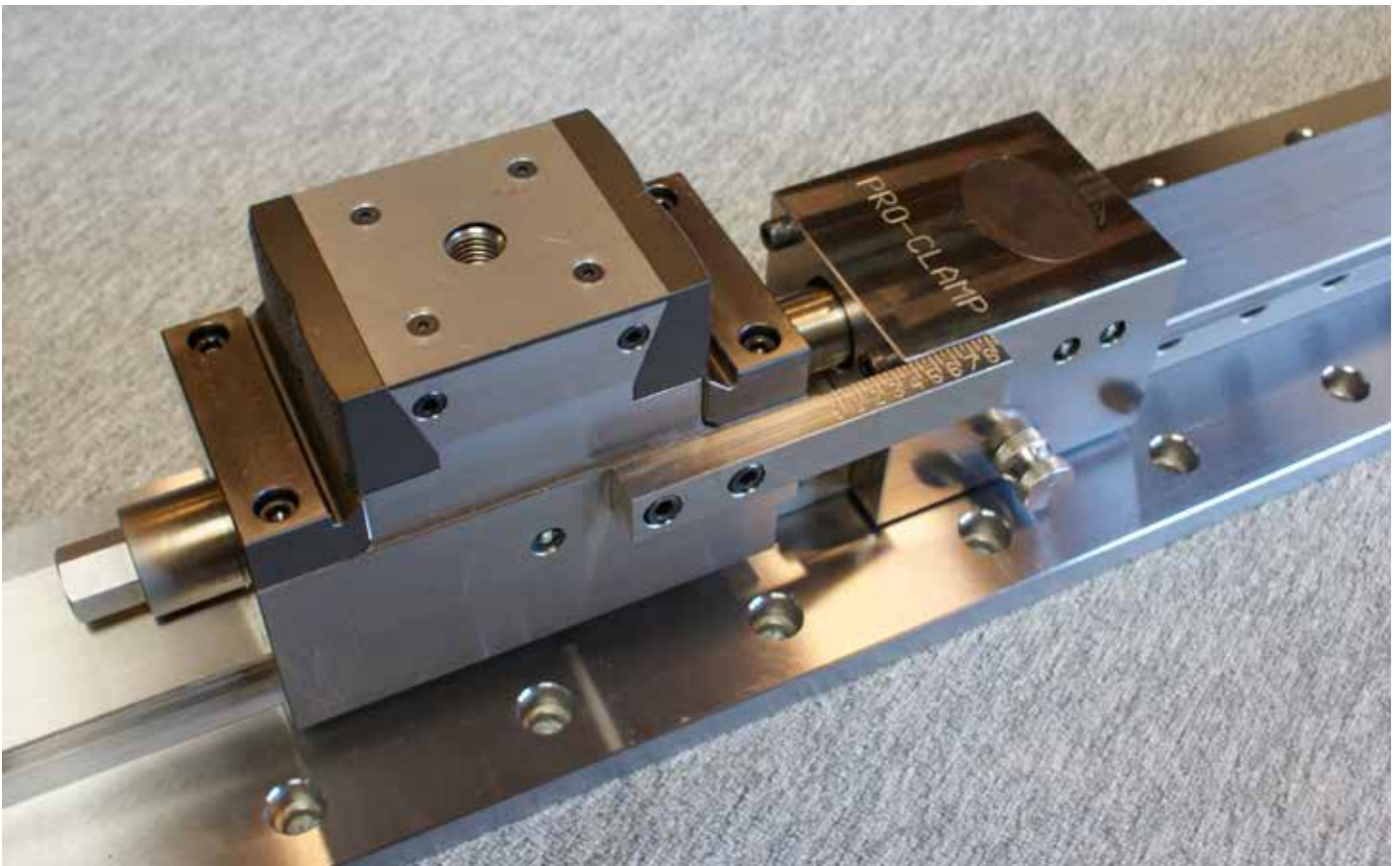
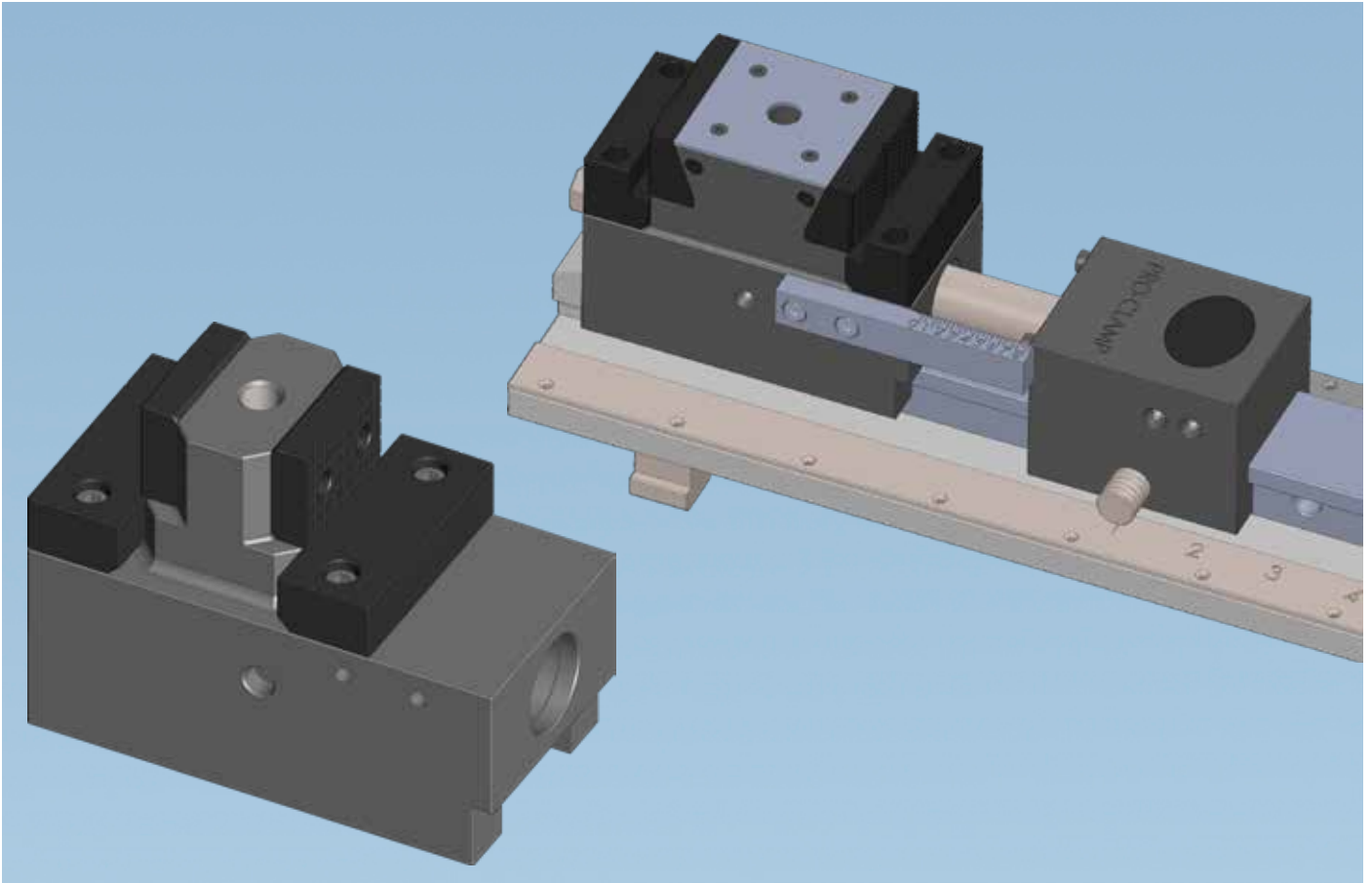
The clamping unit can be altered and customized the customers' existing jaws.

The clamping part and the jaws can be made from the customers' wishes and Polund will fit the clamping unit to the vice.

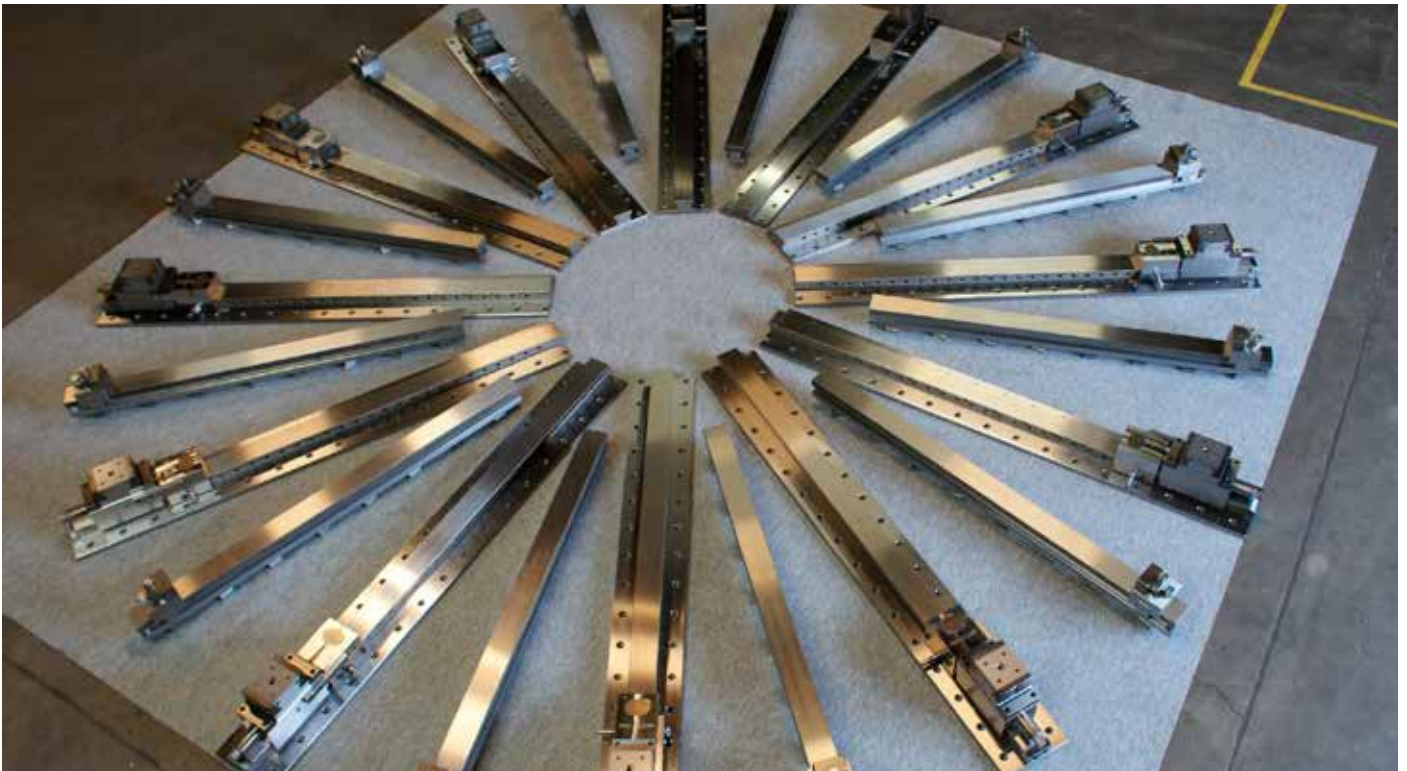
Customized jaws are a possibility to save an operation by adding space for the turning tool under the workpiece in the heightened jaws.

Watch the 4 examples and ask for a solution for your production.

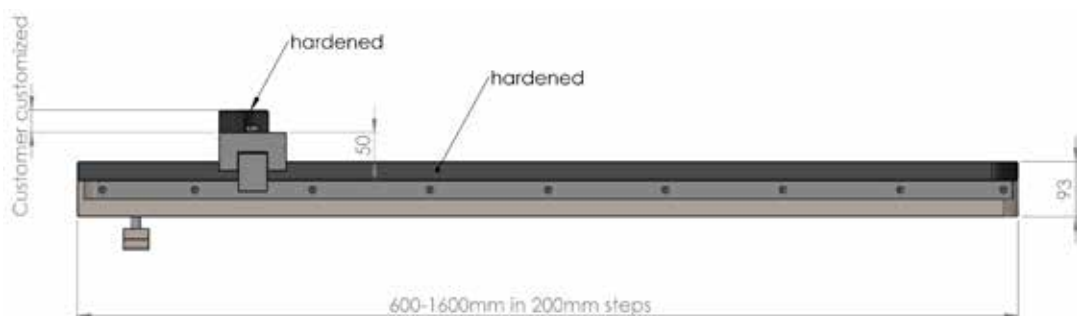
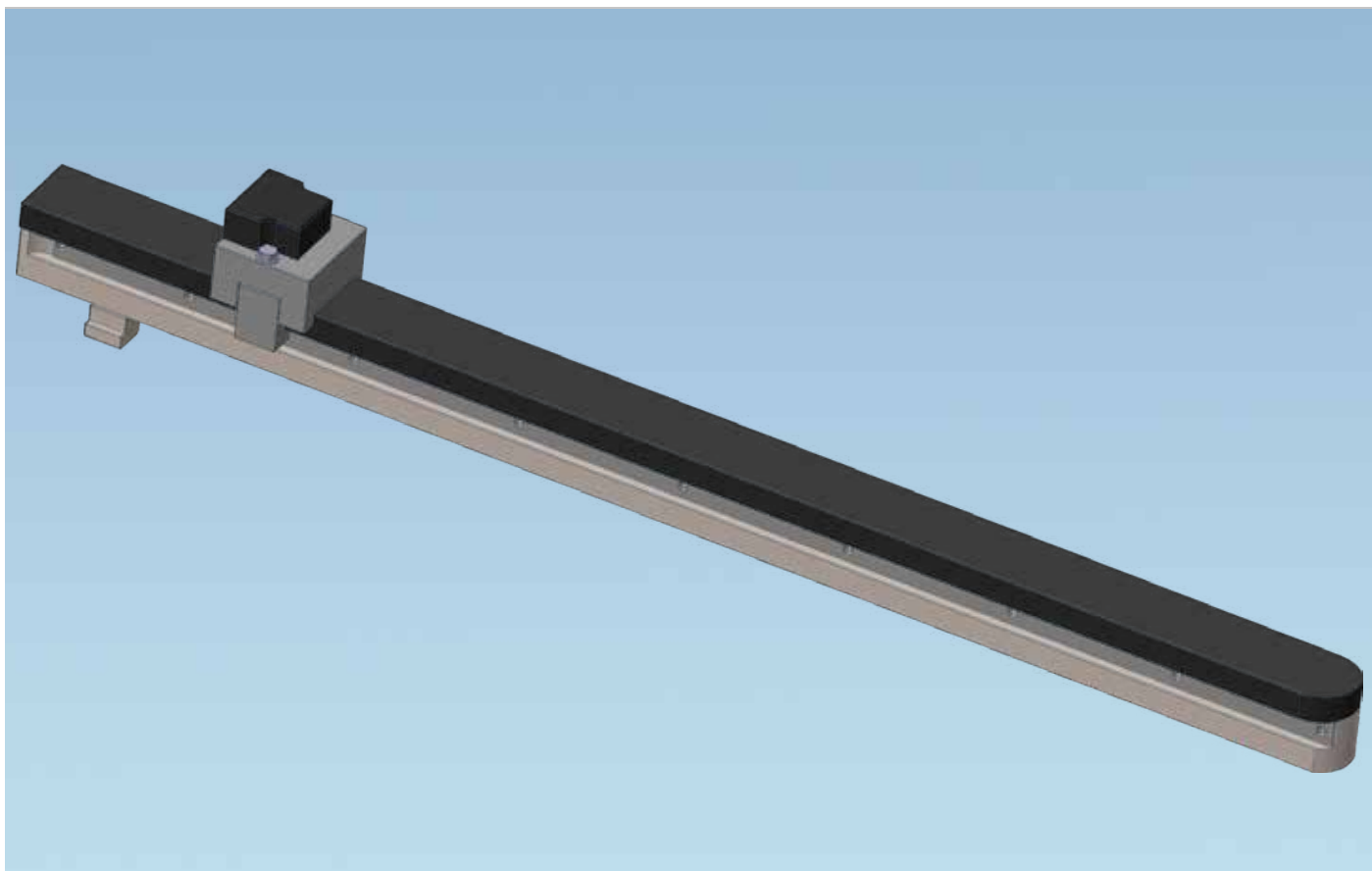
# PRO-CLAMP HEAVY



# PRO-CLAMP HEAVY



# PRO-CLAMP SUPPORT



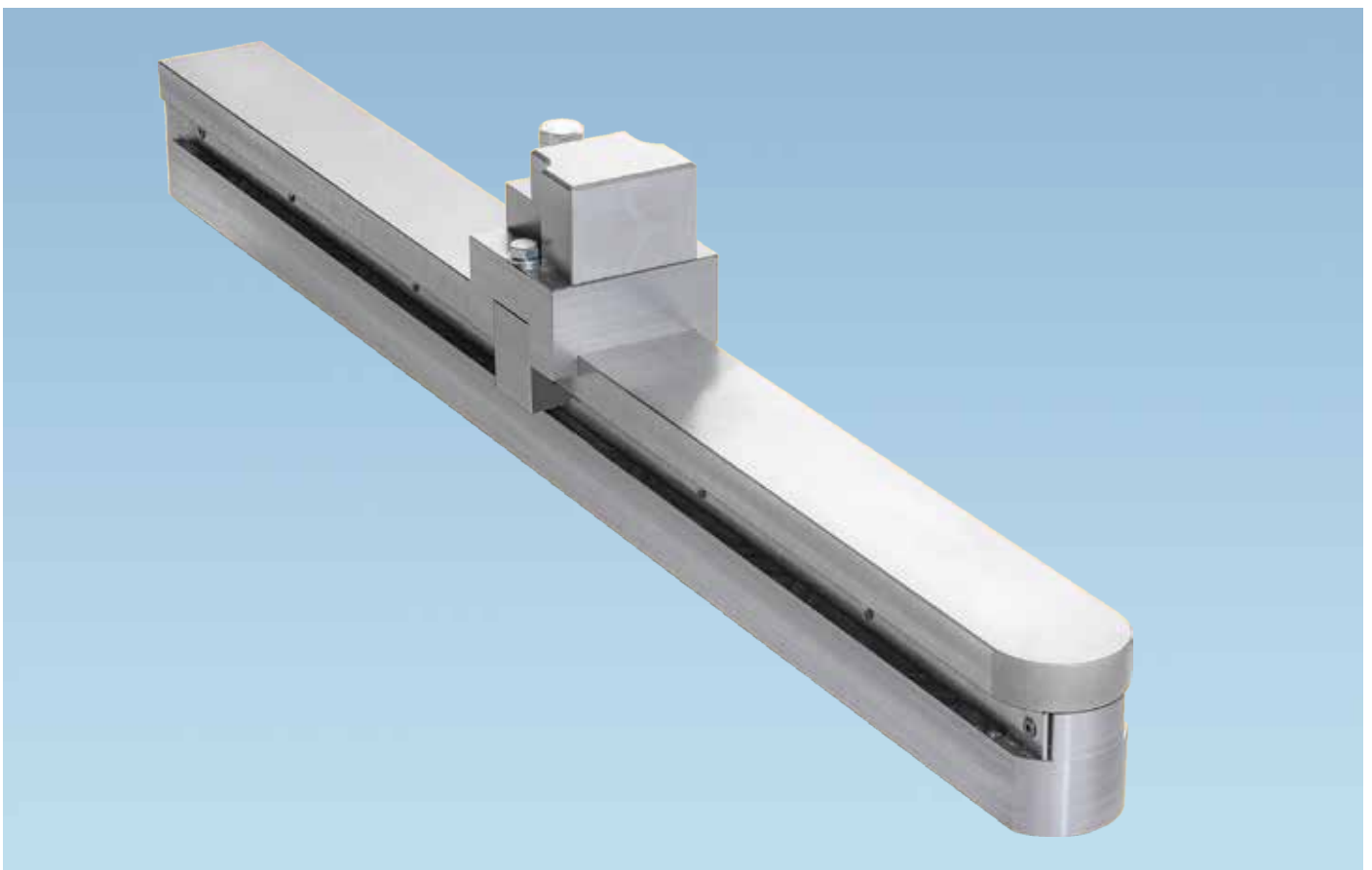
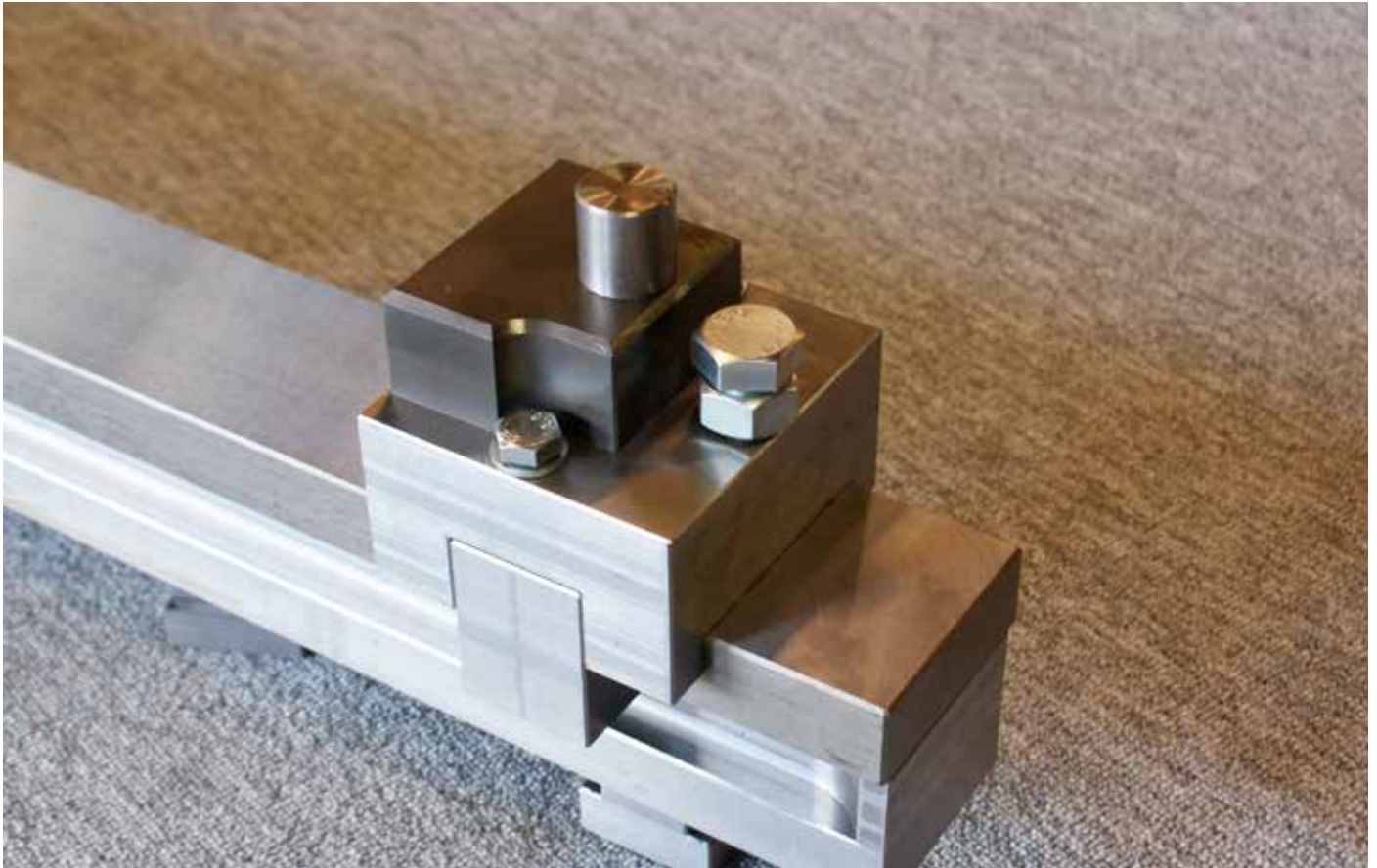
## Fordele ved understøtning

- Længde fra 600 til 1600 mm i trin á 200 mm
- Hurtig og trinløs omstilling
- Anvendes på vertikale karruseldrejebænke
- Længde tilpasses maskinens bord
- Ingen rengøring

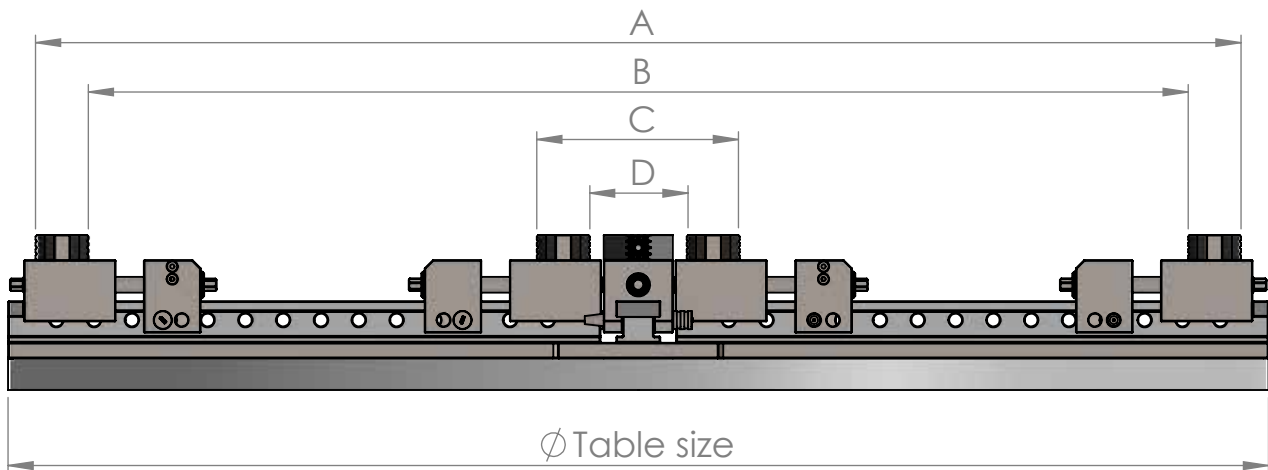
## Features of Support

- Length from 600 to 1600 mm in steps of 200 mm
- Fast and stepless adjustment
- Used for vertical turning lathes
- Length is customized the machines table
- No cleaning

# PRO-CLAMP SUPPORT



# PRO-CLAMP HEAVY MINI



Data sheet PRO-CLAMP Heavy Mini

Item no.	Table size (mm)	A: Inner Clamping area (mm)	B: Outer clamping area (mm)	C: Inner Clamping area (mm)	D: Outer clamping area (mm)	Center distance (mm)	Clamping force (t)
HM-3000	3000	2920	2752	1403	1235	220	7
HM-2500	2500	2420	2252	903	735	220	7
HM-2000	2000	1920	1752	324	156	220	7
HM-1600	1600	1520	1352	324	156	150	7
HM-1250	1250	1170	1002	324	156	150	7
HM-1200	1200	1120	952	324	156	150	7

## Kendetegn ved PRO-CLAMP Heavy Mini

- Anvendelsesområde bl.a. vertikale drejebænk-/multitasking-maskiner
- Fastholdelse af emnet indefra og udefra
- Spændkraft 7 t ved 200 Nm
- Spændeenheden er vendbar 180°
- Spindelvandring 45 mm
- Kan spændes fra begge sider
- Speciallængder og bakker efter specifikke kundeønsker

## Features of PRO-CLAMP Heavy Mini

- Application area among others vertical lathe-/multitasking-machines
- Workpiece clamping from inside and outside
- Clamping force 7 t at 200 Nm
- Clamping unit can be rotated 180°
- Spindle travel 45 mm
- Clamping from both sides
- Special lengths and clamping jaws made after specific customer requirements

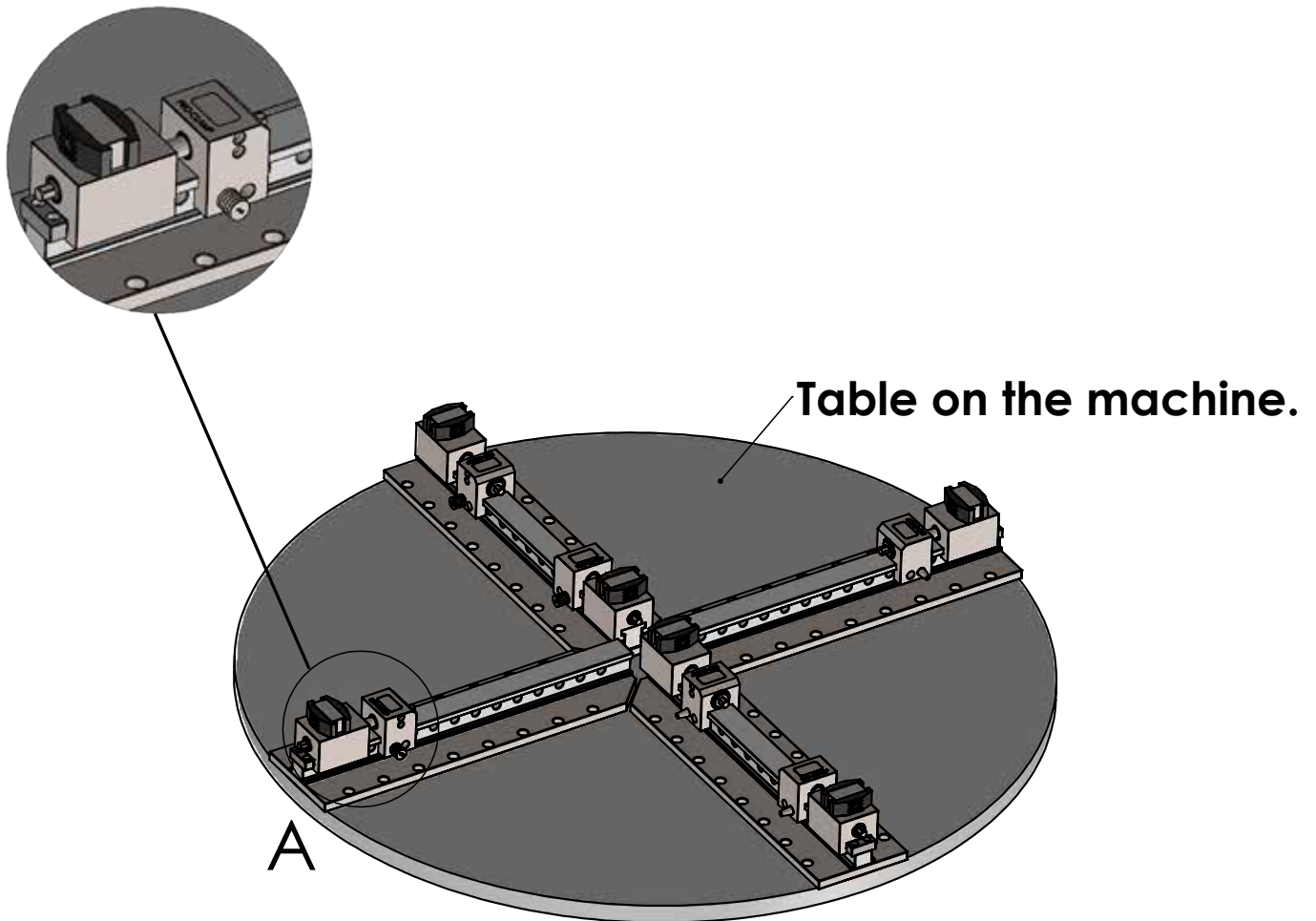
# PRO-CLAMP HEAVY MINI

## PRO-CLAMP Heavy Mini

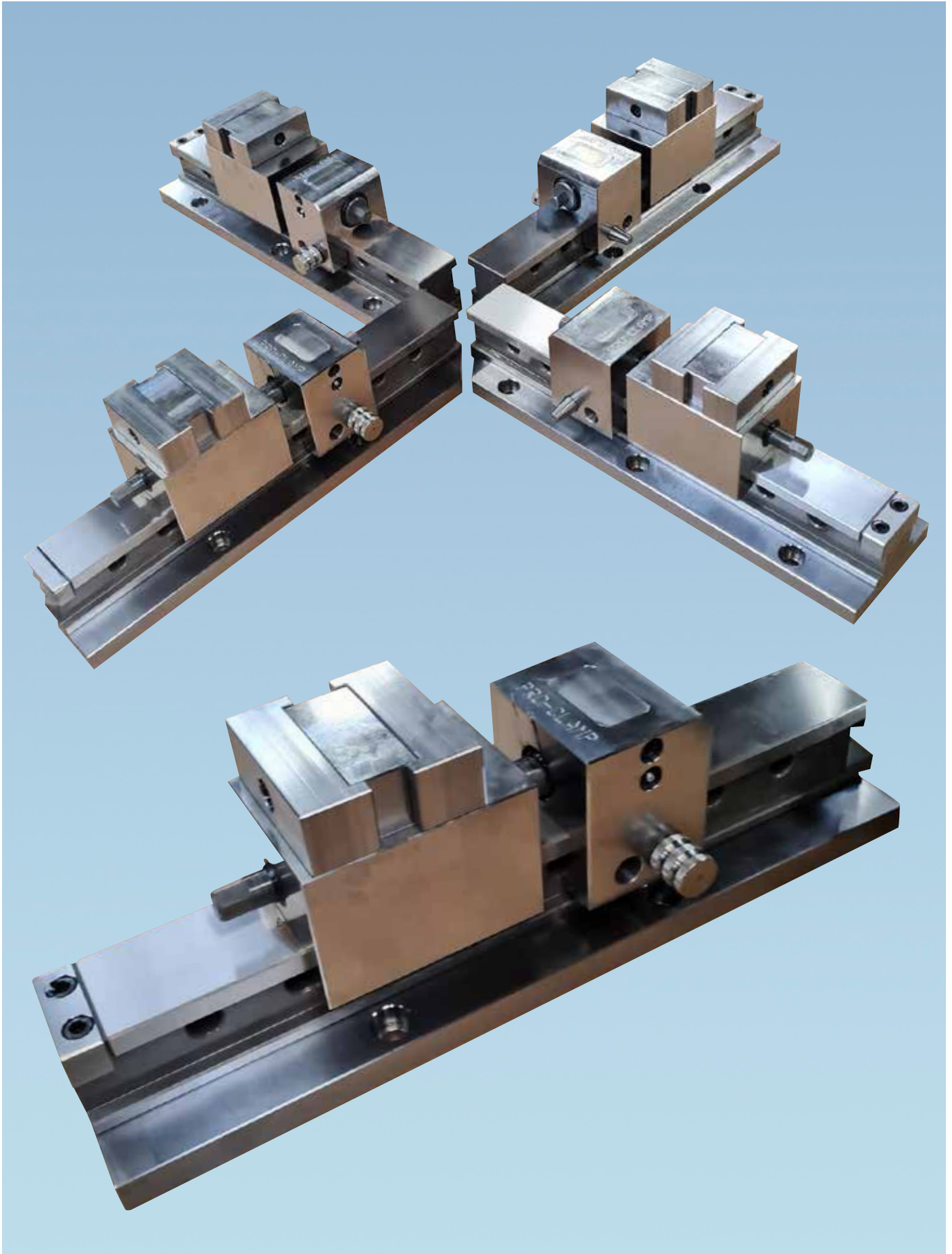
PRO-CLAMP Heavy Mini er en modificering af det store PRO-CLAMP Heavy-system, kombineret med funktionerne fra PRO-CLAMP Basic. Heavy Mini-systemet anvendes på små vertikale drejebænke samt på multitasking-maskiner med eller uden pallekifter. Den stabile konstruktion sikrer en høj og konstant spændekraft på op til 7 t ved 200 Nm. Opbygningen af stammen - ingen lodrette huller eller riller - sikrer en hurtig og let fjernelse af spåner, og samtidig en meget hurtig omstillingstid. Der opnås meget korte omstillingstider på få sekunder pr. enhed. Vi tilbyder gerne kundespecifikke løsninger tilpasset jeres behov.

## PRO-CLAMP Heavy Mini

The PRO-CLAMP Heavy Mini is a modification of the large PRO-CLAMP Heavy combined with the features of the PRO-CLAMP Basic. The Heavy Mini system is used on small vertical lathes as well as on multitasking machines with or without pallet changer. The very sturdy construction ensures a large and constant clamping force of up to 7 t at 200 Nm. The structure of the body, without holes, ensures quick and easy removal of chips, as well as a very fast changeover time. Very short changeover times of a few seconds per clamping rail are achieved. We are happy to offer you customized solutions according to your requirements.



# PRO-CLAMP HEAVY MINI





# PRO-CLAMP HYDRAULIC/AUTOMATION



Weight is 85 kg without jaws

## Kendetegn ved PRO-CLAMP Multi

- Bluetooth overvågning af hydrauliktrykket
- Gap check med luft i bakkerne
- Bakkeskift af robotten
- Integreret nulpunkt system i kæberne
- Ved fejlplacering af emne, kan hydrauliktrykket ikke opbygges og maskinen går i nødstop
- Skruestikken fås, så kunden selv kan tilpasse den til egne bakker (grønt areal)
- Emnet kan sættes i skruestikken uden for maskinen, og begge dele sættes i maskinen
- Spændvidden er 100 mm
- Hydrauliktryk er 7 tons
- Bakker kan vendes 180 grader af robotten

## Features of PRO-CLAMP Multi

- Bluetooth surveillance of the hydraulics pressure
- Gap check with air in the jaws
- Jaw change by the robot
- Integrated zero-point system in the fixed clamping part
- By misplacement of the work piece the hydraulics pressure will not build up and the machine enters emergency stop
- The vice can be acquired to be able to customize it for own jaws (green area)
- The work piece can be mounted on the vice outside the machine and both can be placed on the machine
- The span is 100 mm
- The hydraulics pressure is 7 ton
- The jaws can be turned 180 degrees by the robot

# PRO-CLAMP HYDRAULIC/AUTOMATION

## PRO-CLAMP Multi

PRO-CLAMP Multi skruestikken er fremstillet til automation, hvor sikkerhed er i top.

Centrerspænderen kan placeres udenfor maskinen i en ladestation og her lades af robotten. Bakker kan skiftes og emner placeres i centrerspænderen. Inden flytning af centrerspænderen til bearbejdsningscentret, udføres følgende: gap-tjek, hydrauliktryk tjekkes, placering af emnet tjekkes. Når alt er godkendt, løftes hele setuppet til bearbejdsningscentret af robotten. Der vil i bearbejdsningscenteret også udføres tjek af centrerspænderens placering i 0-punkterne.

Spændvidde er 100 mm, spædekraften er 5 tons og vægten er 85 kg. Antrækket er det samme til skruestik og bakker. De aftagelige bakker fastlåses mekanisk og løsnes hydraulisk af robotten.

Setupet er konstrueret, så hydrauliktrykket, som bruges til fastholdelse af emnet, også bruges til åbning af 0-punkt-systemet. Når hydrauliktrykket fjernes, vil den låsbare bakke manuelt trækkes an.

Som option kan monteres en nyudviklet hydrauliksensorm, som forbindes trådløst til bearbejdsningscenteret ved hjælp af Bluetooth. Under anvendelse af eksisterende kontrolpanel sikres konstant hydrauliktryk. Ved trykfald sender kontrolpanelet besked til bearbejdsningscentret om at gå i nødstop.

## PRO-CLAMP Multi

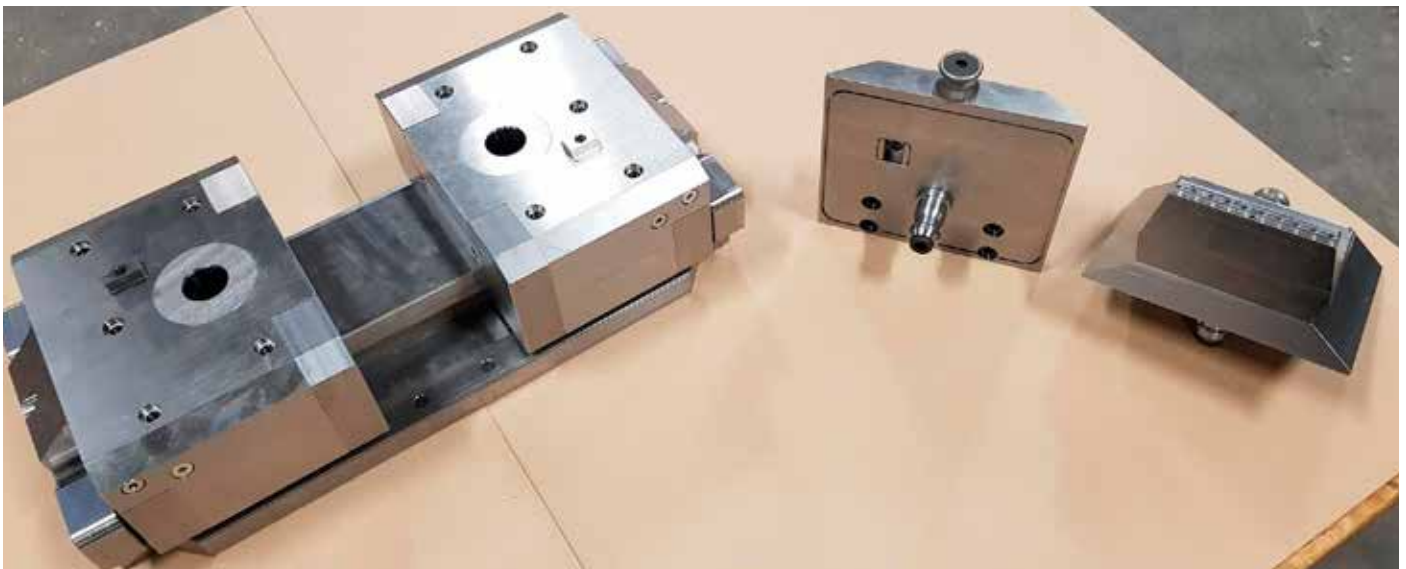
PRO-CLAMP Multi vice is made for automation, where safety is first priority.

The Centering Vice is placeable outside the machine in a loading station and can here be loaded by the robot. Jaws can be changed, and work pieces can be placed in the centering vice. Before moving the centering vice to the machining center, the following is executed: gap-check is performed, and hydraulics pressure and position of the work piece is checked. When everything is approved, the setup is lifted to the machining center by the robot. In the machining center there will also be performed check of the positioning of the centering vice in the zero-points.

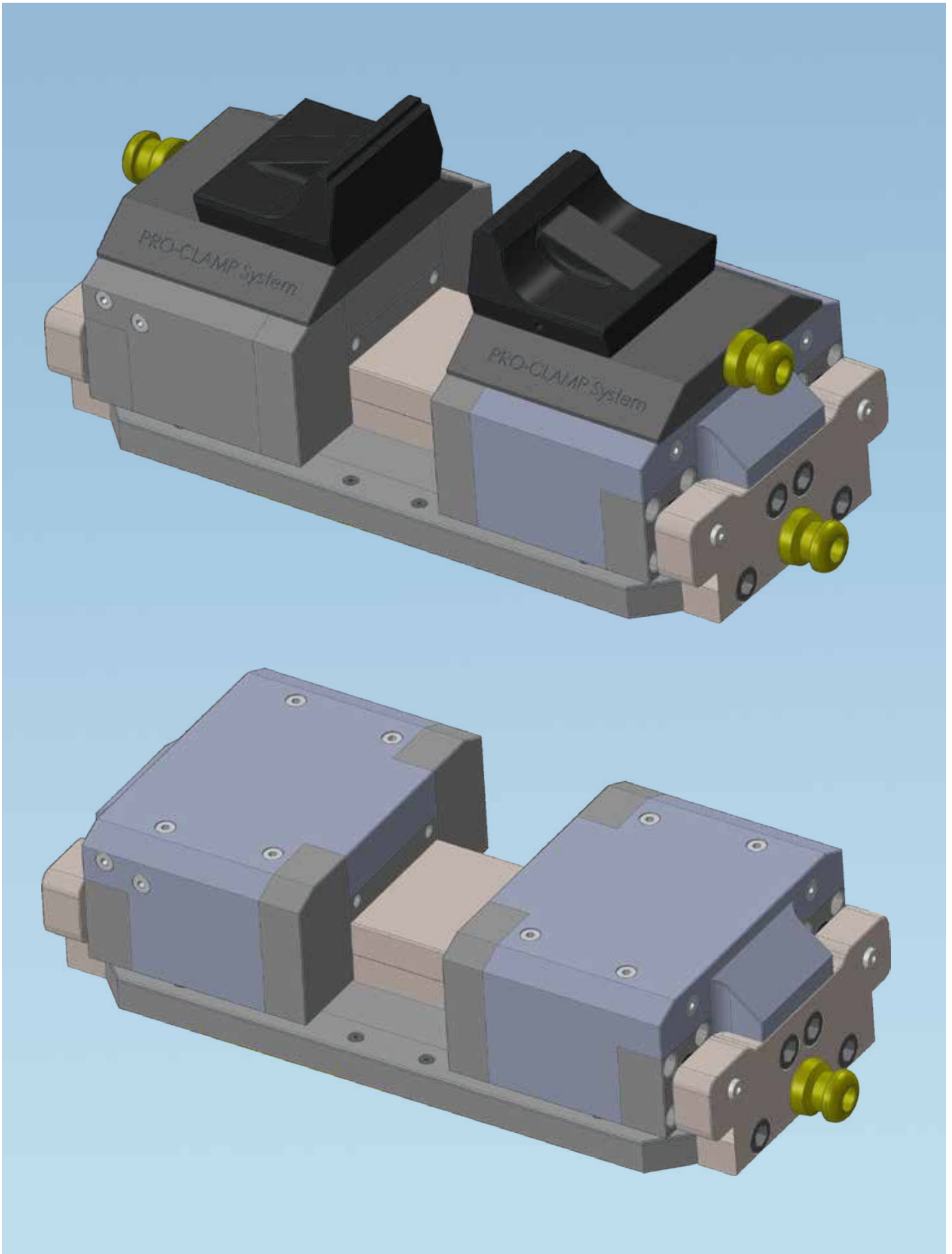
The clamping area is 100 mm, the clamping force is 5 tons, and the weight is 85 Kg. The clamping pull studs are the same for vice and jaws. The movable jaws are locked mechanically and is unclamped with hydraulic by the robot.

The setup is constructed so that the hydraulics pressure, which is used for clamping the work piece, is also used for opening the zero-point-system. When the hydraulics pressure is removed, the jaw will automatically be locked.

As an option a newly developed hydraulics sensor can be installed. It is wireless connected to the machining center with Bluetooth. Using the existing control panel, a constant hydraulics pressure is secured. By drop of pressure the control panel sends a message to the machining center to enter emergency stop.



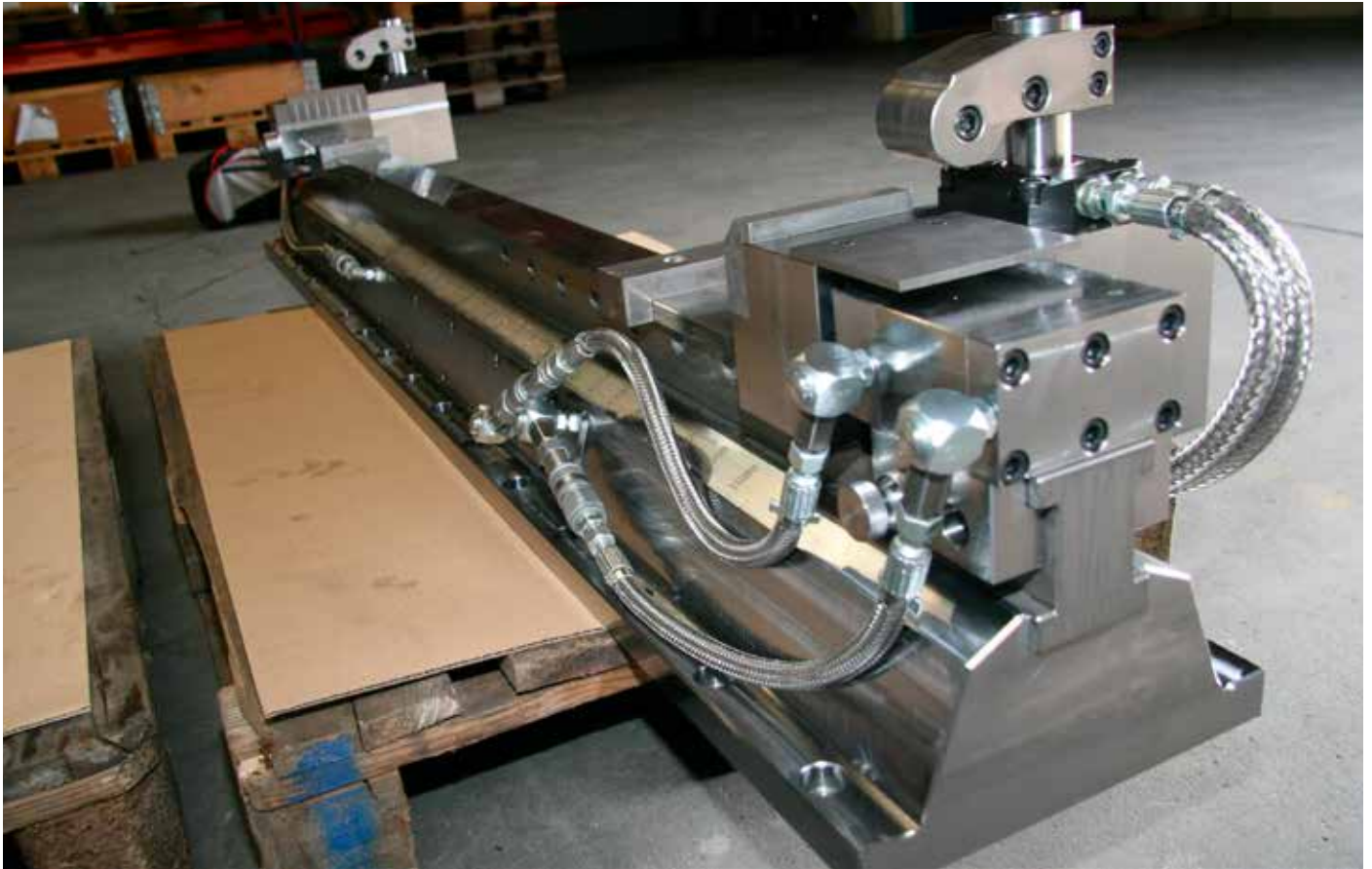
# PRO-CLAMP HYDRAULIC/AUTOMATION



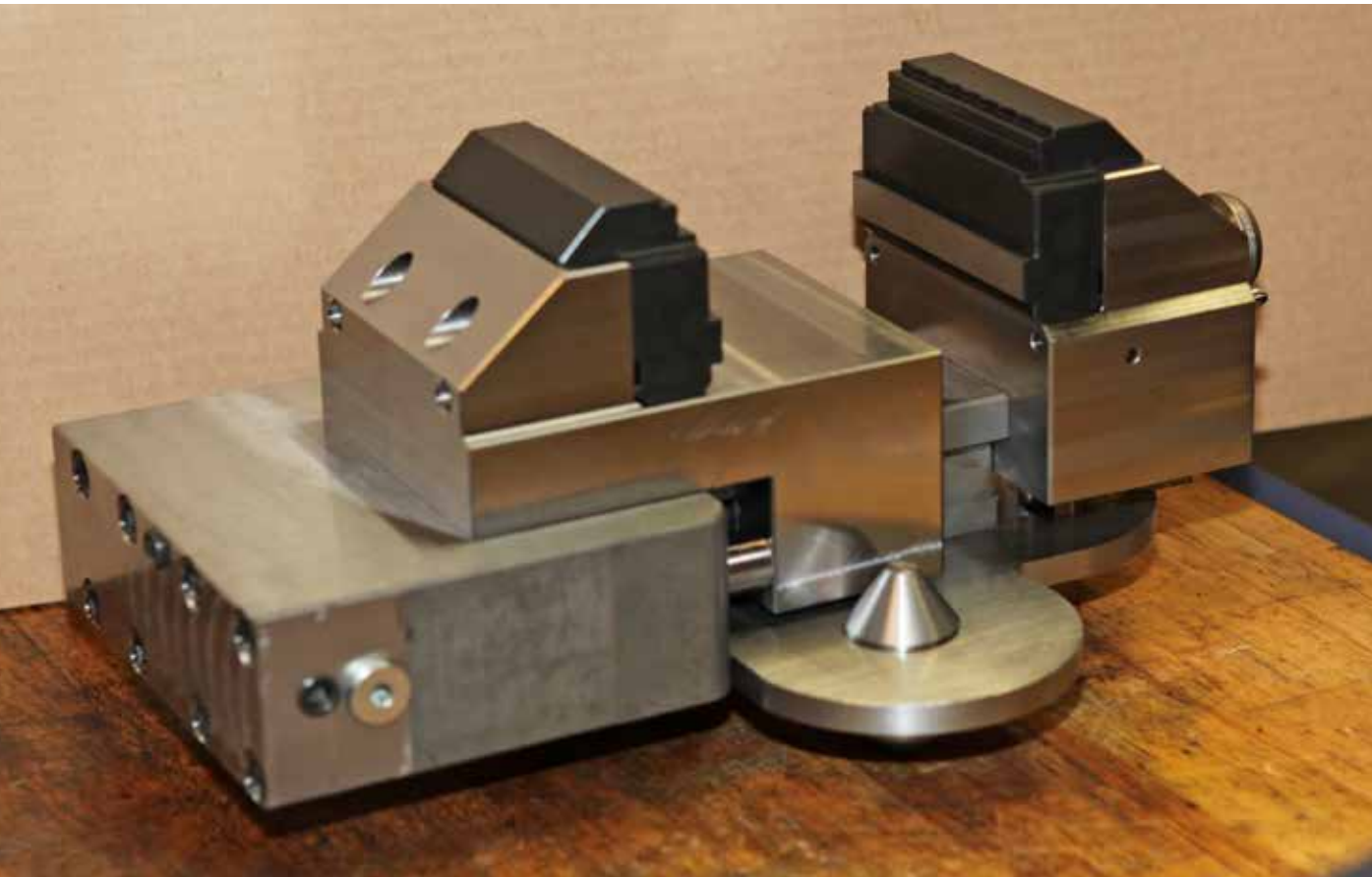
# PRO-CLAMP HYDRAULIC/AUTOMATION



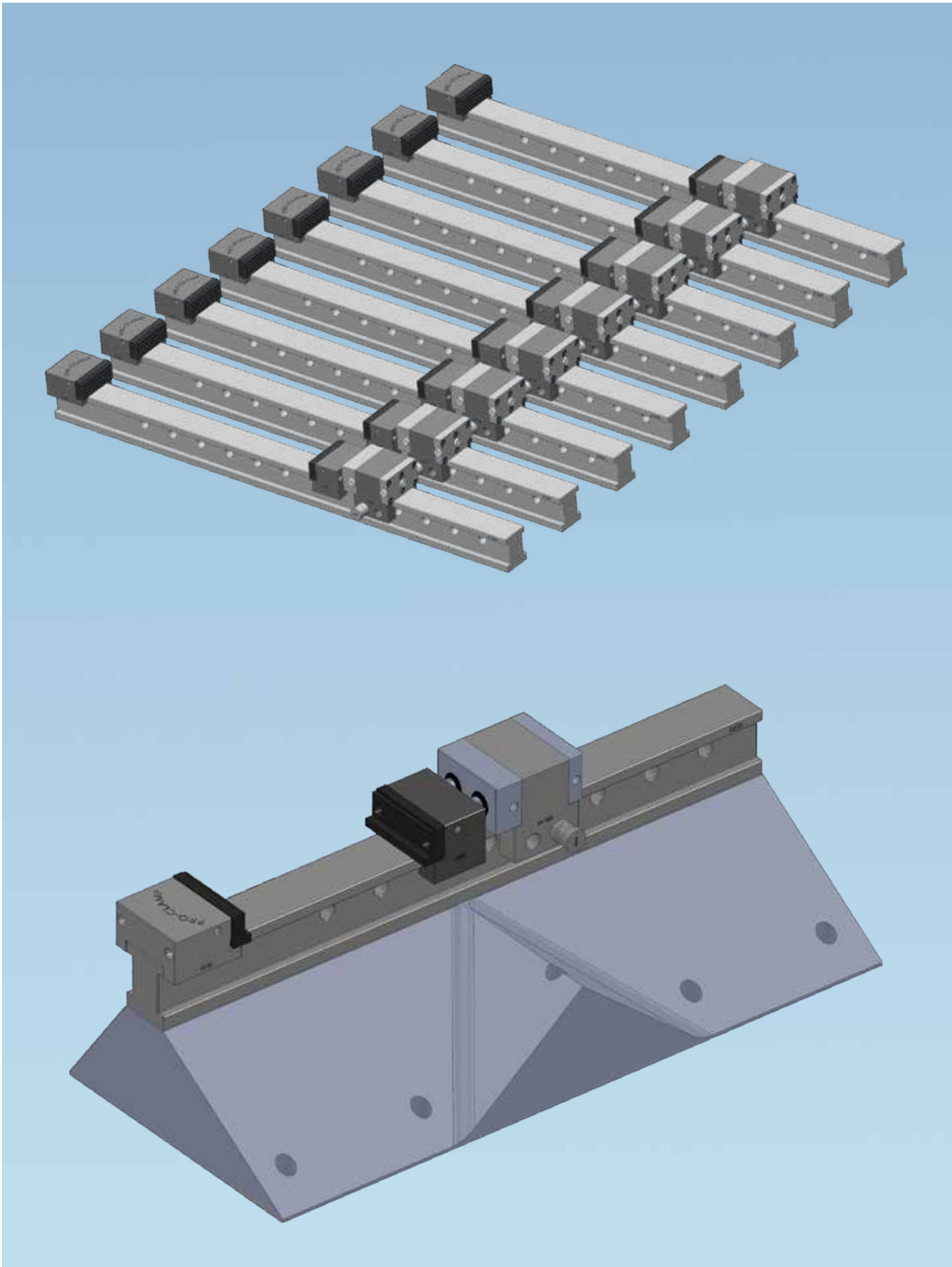
# PRO-CLAMP HYDRAULIC/AUTOMATION



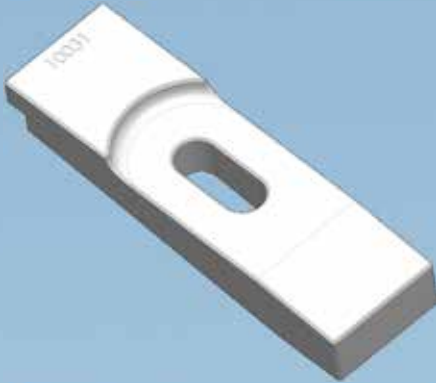
# PRO-CLAMP HYDRAULIC/AUTOMATION



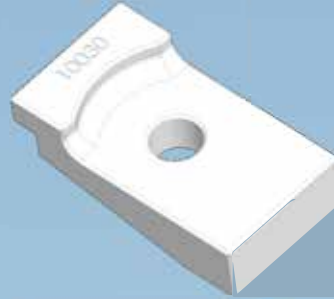
# PRO-CLAMP HYDRAULIC/AUTOMATION



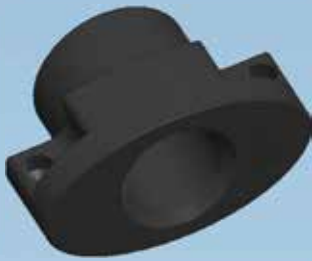
# PRO-CLAMP ACCESSORIES



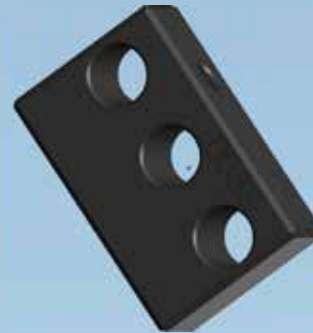
**Item No. 10031**  
Clamping iron, large



**Item No. 10030**  
Clamping iron, small



**Item No. 36**  
Spindle threadpart, hardened



**Item No. 35**  
Wear part



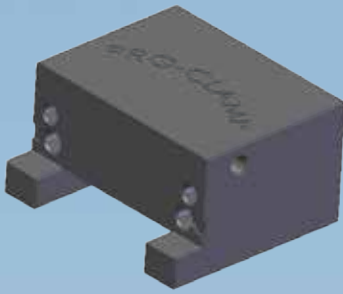
**Item No. 31**  
Spindle



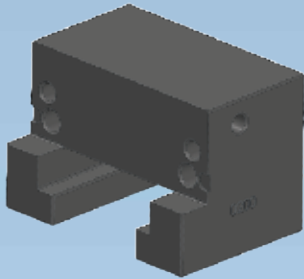
**Item No. F 330 + F 320**  
Locking Pawl, R+L



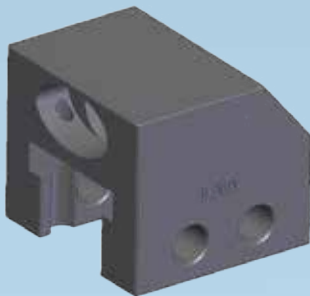
# PRO-CLAMP ACCESSORIES



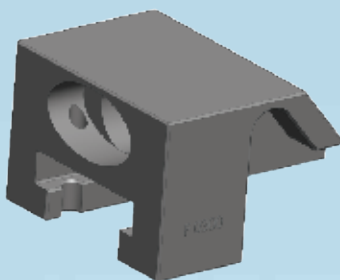
**Item No. 100 Fixed Clamping part**



**Item No. 200 Movable Clamping part**

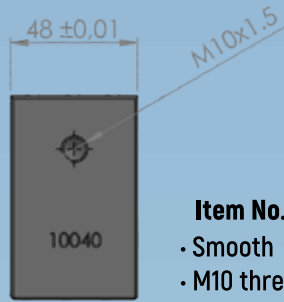
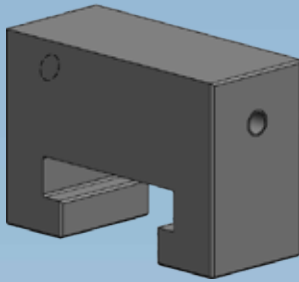


**Item No. B300 Spindle Holder Basic**

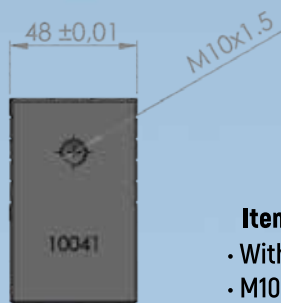
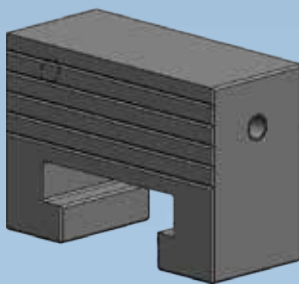


**Item No. F300 Spindle Holder Flexible**

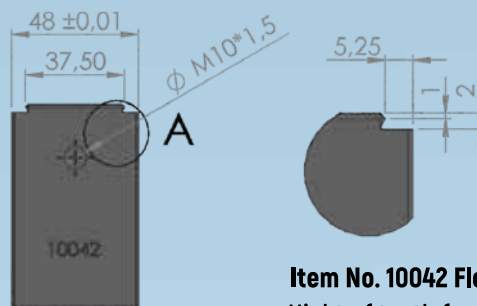
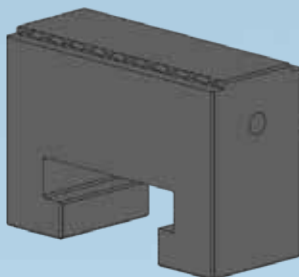
# PRO-CLAMP ACCESSORIES



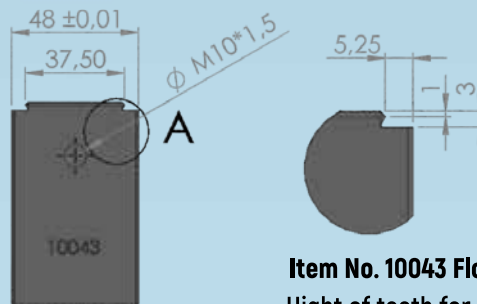
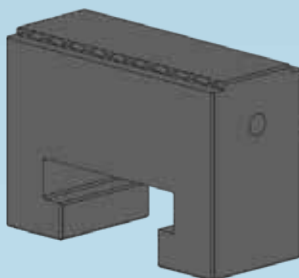
- Item No. 10040 Floating centerjaw-smooth**
- Smooth
  - M10 thread for mounting of work piece stop



- Item No. 10041 Floating centerjaw-with grooves**
- With grooves
  - M10 thread for mounting of work piece stop

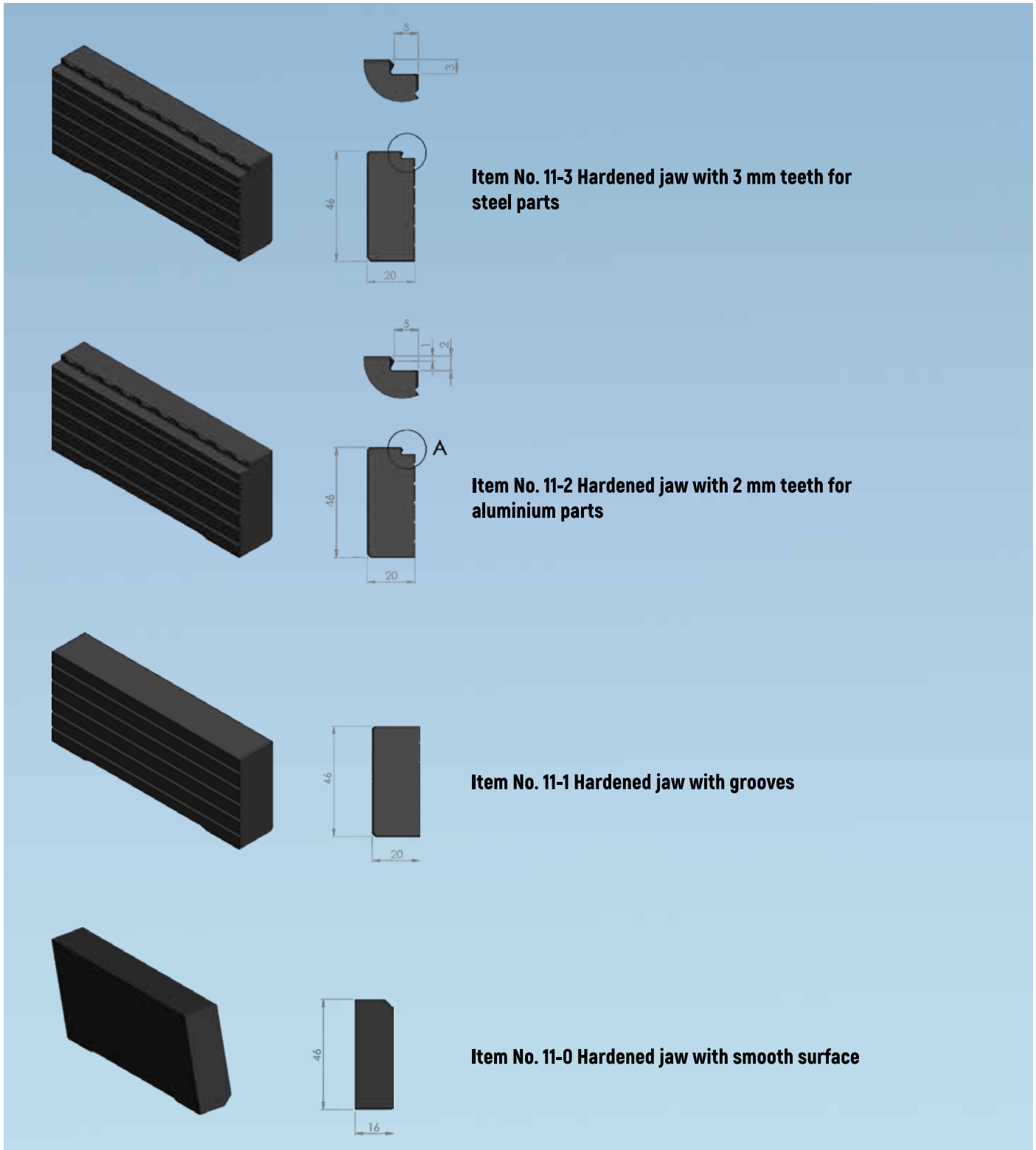


- Item No. 10042 Floating centerjaw with 2 mm teeth**
- Hight of teeth for aluminium: 2 mm
  - M10 Thread for mounting of work piece stop



- Item No. 10043 Floating centerjaw with 3 mm teeth**
- Hight of teeth for steel: 3 mm
  - M10 thread for mounting of work piece stop

# PRO-CLAMP ACCESSORIES



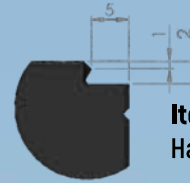
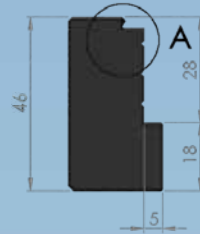
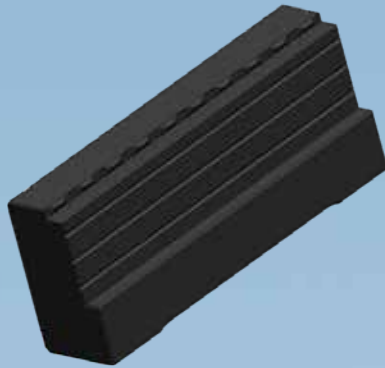
## Bakker

Alle hærdede og bløde bakker er monteret med stifter, som sikrer en ensartet placering.

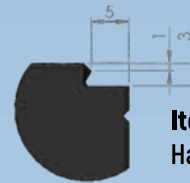
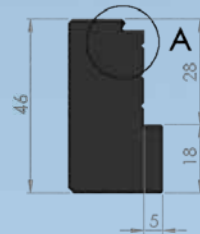
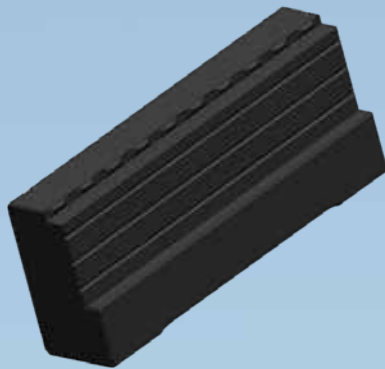
## Jaws

All hardened and soft jaws are mounted with precision orientation pins, to ensure the exactness by replacement.

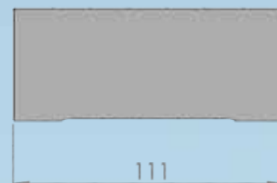
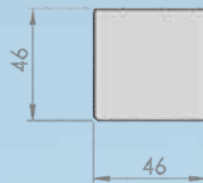
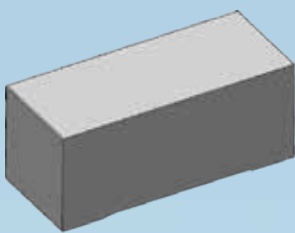
# PRO-CLAMP ACCESSORIES



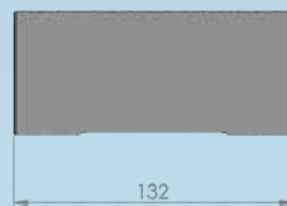
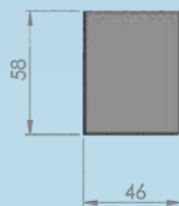
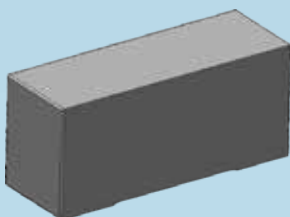
**Item No. CT 5 11 - 2**  
Hardened jaw for 5-Axis Vice



**Item No. CT 5 11 - 3**  
Hardened jaw for 5-Axis Vice



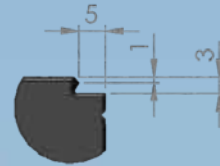
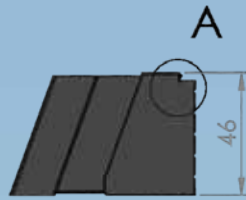
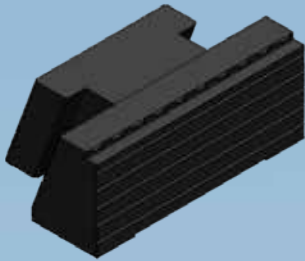
**Item No. 12-0 Soft jaw**



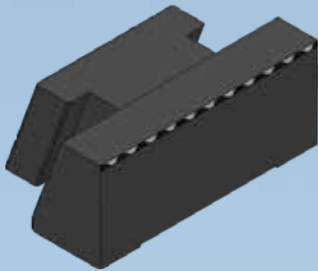
**Item No. 13-0 Soft jaw**

# PRO-CLAMP ACCESSORIES

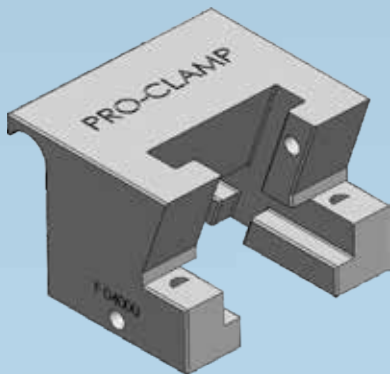
## Jaws for fixed/movable



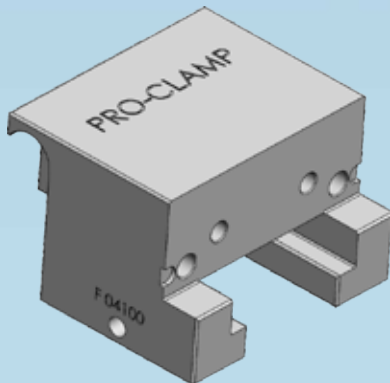
**Item No. HB4000**  
Fast changeable jaw



**Jaws for fixed/movable**  
Item No. -special - on request

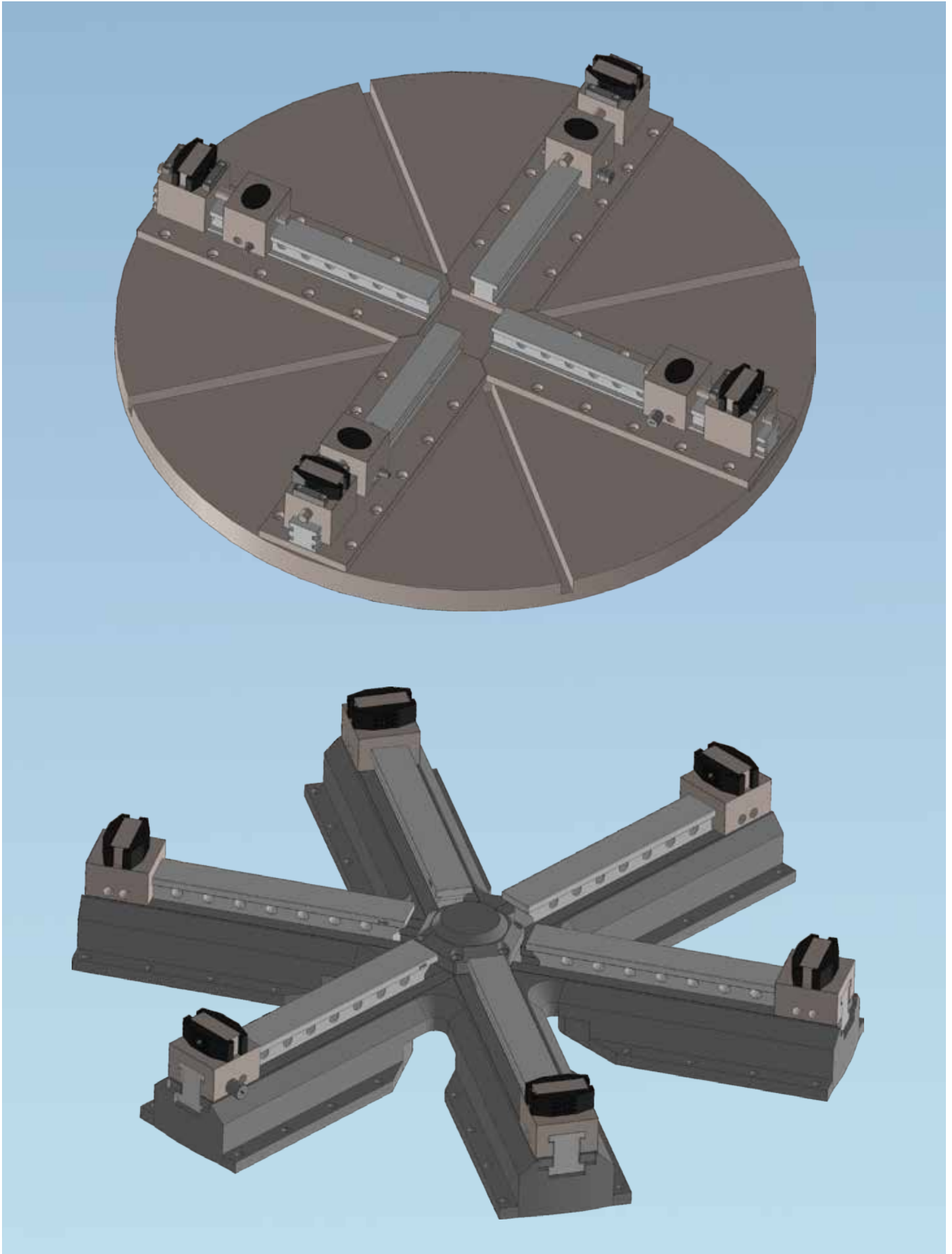


**Fixed/movable for quick removable jaw**  
Item No. F4000

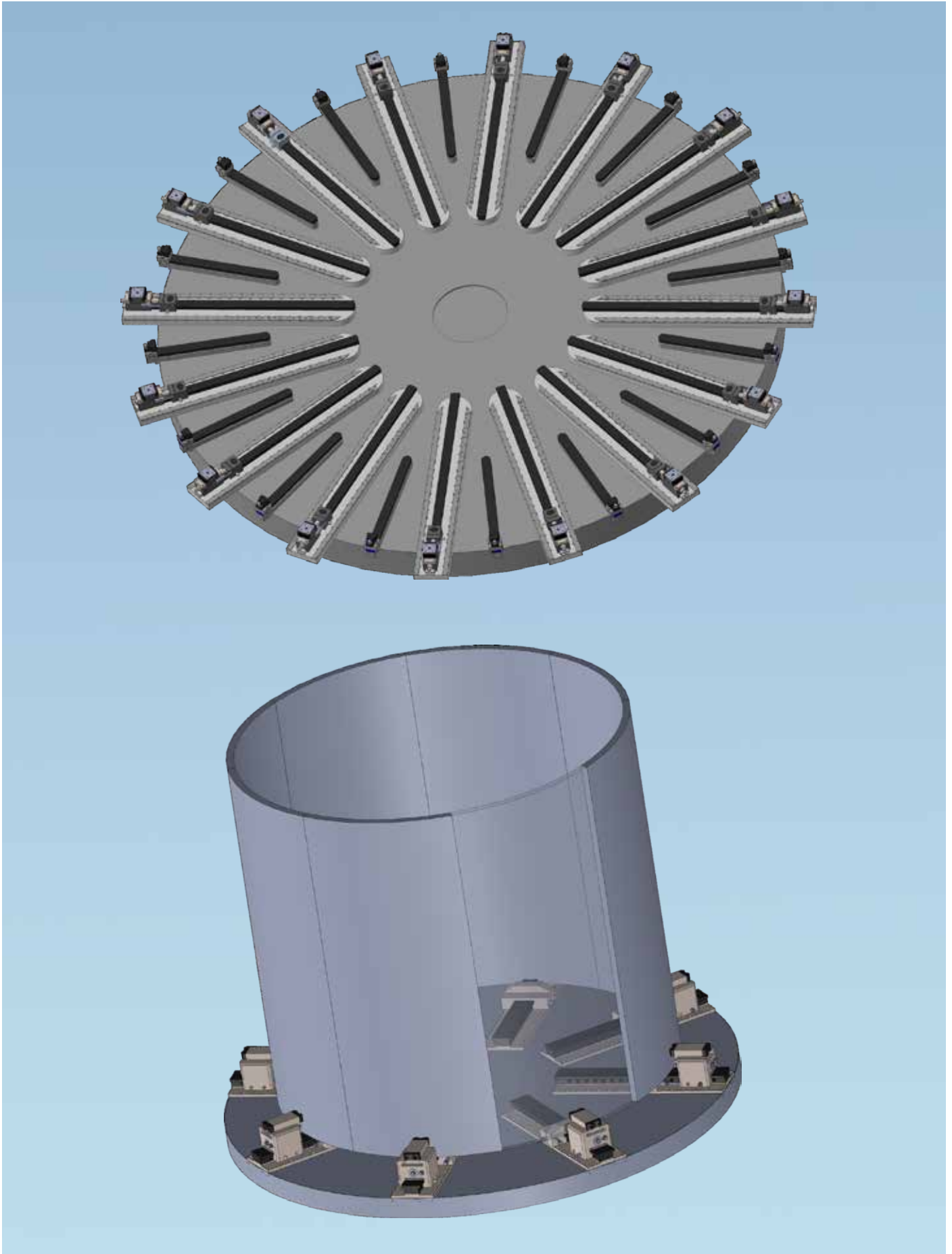


**Fixed/movable**  
Item No. F4100

# PRO-CLAMP SPECIAL SOLUTIONS



# PRO-CLAMP SPECIAL SOLUTIONS



# ***Polund***

**PRO-CLAMP Systems**

For more information  
[www.pro-clamp.dk](http://www.pro-clamp.dk)

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[www.pro-clamp.dk](http://www.pro-clamp.dk)  
v.5